



THE
PRAIRIE
PROVINCES
OF
CANADA
THEIR
HISTORY
PEOPLE
COMMERCE
INDUSTRIES
& RESOURCES



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THE PRAIRIE PROVINCES OF CANADA

THE PRAIRIE PROVINCES OF CANADA

Their History, People, Commerce, Industries, and Resources

COMPILED BY
HENRY J. BOAM, F.R.G.S.



EDITED BY
ASHLEY G. BROWN

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THE PREMIERS OF THE PROVINCES.

- 1 THE HON. SIR RODMOND P. ROBLIN, K.C.M.G., PREMIER AND PROVINCIAL SECRETARY, COMMISSIONER OF RAILWAYS AND COMMISSIONER OF PROVINCIAL LANDS, MANITOBA
2 THE HON. WALTER SCOTT, PREMIER AND MINISTER OF EDUCATION, SASKATCHEWAN.
3. THE HON. ARTHUR L. SIFTON, PREMIER, ALBERTA

(Photo by Histed, London.)



PREFACE



THE successful production of a reference work dealing with British Columbia convinced the publishers that a similar volume devoted to the sister provinces of Manitoba, Saskatchewan, and Alberta would supply a genuine need. Whilst this volume has been produced upon the lines laid down in the earlier work, the publishers believe that several improvements in matters of detail have been effected.

Every effort has been made to deal fully and impartially with the wonderful development that is taking place to-day within the Prairie Provinces. To achieve this end the compiler, editor, and staff have resided for twelve months within the territory concerned.

Under the Editorial control of Mr. Ashley Brown attention has been devoted to securing the treatment of technical subjects by competent writers. The publishers doubt if within the compass of a single volume expert treatment has before been given to so many different aspects of Western Canadian life.

The assistance of many able and disinterested men has made possible the inclusion of information concerning certain leading and typical industries. This feature of the work will, it is anticipated, be appreciated in commercial and financial circles in Great Britain.

The Prairie Provinces consist of 758,817 square miles, administered by three distinct Provincial Governments and in some matters also by the Government of the Dominion. Whilst the publishers have no wish to dwell at any length upon the difficulties involved in the production of a work covering so vast a territory, they think it well to point out that in many instances the only available information was either very scanty or entirely unreliable. In such cases, so far as was possible, evidence was obtained at first hand by investigators attached to the staff.

It has been the intention of the publishers to produce a volume at once interesting and informative. No task that could tend to this end has been deemed too difficult to be attempted, or too insignificant to be accomplished.

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THE PRAIRIE PROVINCES OF CANADA

THEIR HISTORY, PEOPLE, COMMERCE, INDUSTRIES, AND RESOURCES

THE HISTORY OF THE PRAIRIE PROVINCES

BY PERCY EVANS LEWIN, F.L.A., LIBRARIAN, ROYAL COLONIAL INSTITUTE, LONDON

CHAPTER I

The Vérendryes



THE rivers and lakes of North-Western America were essentially the highways of explorers and traders throughout the whole period of early Western history. From waterway to waterway they pushed forward towards the far off Western Sea that was known to intervene between the French settlements in Canada and the wonderful countries of the Far East, filled with the fabulous riches of the ages. China and Japan were never far distant in the imagination of the first Canadian settlers. As explorers pressed towards the setting sun they ever expected to discover the open ocean and to reach the salt waters which the Indians asserted lay to the west. They had little conception of the vast distances that had yet to be traversed. The intricate network of waterways lying between

Montreal and Lake Winnipeg was practically unknown to the early pioneers. The great plains of Western Canada, which had once, according to geologists, formed the bed of an immense prehistoric lake, which has been termed Lake Agassiz and was equal in size to the combined areas of the five Great Lakes, were as absolutely unknown in the seventeenth century as the fabled city of Manoa and the riches of El Dorado. The frowning barriers of the Rocky Mountains interposing their mighty rampart between the Pacific and the Western plains; rising in tier upon tier of massive rock; and presenting in their rugged grandeur an almost unsurmountable obstacle to the efforts of puny men, were never dreamt of by the most far-sighted of the explorers. The tale of western exploration cannot be wholly divorced from the story of the penetration and conquest of Eastern Canada. The geographical heirs of the men who had sailed up the mighty St. Lawrence, making their settlements at Quebec and Montreal, sending forth their priests to convert the fierce and relentless

savages of the interior and their traders to obtain the much coveted peltries which abounded in the hidden fastnesses of Canada, were dependent upon the discoveries of the past, and never burst upon the Western plains as did Cook upon the shores of Australia or Da Gama into the Indian seas. Their advance was gradual but unceasing. It was the result of years of labour and toil; of a stern and strong fight against the solitude of the vast wastes; of indomitable daring and pluck in the face of the fearful odds imposed by relentless and savage Nature and by equally relentless and savage men. Although to the British belongs the great achievement of finally opening the plains and scaling the mountains of the west, they were the last to advance into the lands of evening twilight, and in the main they reaped where others had sown. The early exploration of Canada is almost entirely an epic of French daring and adventure. It was Cartier and Champlain and a hundred more who had gradually unrolled the map of Northern America and opened the way

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to the west. The English knew nothing of the interior of Canada after trading for half a century upon the coasts of Hudson Bay. The French, on the contrary, driven forward by the spirit of enterprise and heroic self-sacrifice, were continually adding fresh lands to their heritage on the St. Lawrence. The *coureurs de bois*, those restless spirits who were called into the wilds from the settlements at Quebec and Montreal, sometimes adopting redskin customs and marrying Indian wives, were urged forward partly in the hope of solid gain and partly with the desire of exploring the unknown countries that lay beyond. These men furnished the enterprise that added new provinces to the colonies of the French monarch. The intrepid missionaries of the Catholic Church, who braved the terrors of massacre and torture at the hands of the Indians, and poured out their life-blood as a libation on the altars of their faith, supplied the self-sacrifice that added new realms to the Church. The story of the Jesuit missionaries in Canada is one of the noblest annals in the history of the world. The untold dangers and miseries they braved and suffered, the incredible hardships they underwent, belong rather to the tale of Eastern than of Western Canada.

It is uncertain to whom really belongs the honour of first venturing into the western portions of Canada. By some it is asserted that it was Pierre Esprit Radisson, accompanied by his brother-in-law, Médard Chouart, who was the first to reach Lake Winnipeg; but the evidence is uncertain and inconclusive. Whatever may have been Radisson's destination when he set forth from the northern shores of Lake Superior in the spring of 1662 in company with a party of Cree Indians, it is certain that in the preceding years he had been a restless traveller along the shores of the Great Lakes and in the unknown country around Lake Superior. He had wintered among the Sioux in what is now the State of Minnesota, and had made himself familiar with great stretches of country lying to the south-west of the greatest of the lakes. But the course of his fourth journey is unknown, although many interesting theories have been advanced to account for his wanderings. It will be seen in a later chapter that it is probable that he actually reached the southern shores of James' Bay, where he conceived the idea of founding a trading company to barter goods with the Indians of the north.

But the credit of the discovery of the Great West belongs in all probability to Pierre Gaultier de Varennes, Sieur de la Vérendrye, the first Canadian after D'Iberville to achieve lasting renown in his own country. What extraordinary combination of perseverance and pertinacity, of courage and hardihood, of resolution and fortitude, spurred this man forward into the wilderness it would be impossible to say. His was indeed the genius of successful achievement. In spite of a thousand difficulties and dangers, of half-heartedness and even open opposition on the part of his followers, of monetary losses and inadequate financial support, La Vérendrye and his band of devoted sons, in whom he had implanted his own enthusiasm, carried out their plans with relentless determination.

The discoverer of Western Canada was born in 1685 at the little settlement of Three Rivers, where his father was Governor. Surrounded from his earliest years by the hardy pioneers who traversed this portion of Canada, he imbibed their spirit of adventure, and when, after some years spent in Europe on the battlefields of Flanders, he returned to Canada he was only too ready to listen to the stories of the far interior poured into his ears by the Indians who periodically arrived at the settlements in order to dispose of their supplies of fur. Amongst those who visited him at his trading post at Nipigon was one named Ochagach, who told him of a great lake beyond Lake Superior, which according to his own account he himself had visited. Prompted, doubtless, by the eager questions of La Vérendrye, the Indian asserted that this was the Western Ocean, for he stated that its waters were salt and that they ebbed and flowed with a regular tide. Many other particulars were added, some true and some fabulous, but amply sufficient to arouse La Vérendrye's curiosity and to kindle the flame of his natural enthusiasm for the unknown. Henceforth his life's work was to reach this Western Sea and to be the first to show the way across the continent to the ocean that washed the eastern shores of Asia. In the summer of 1731, armed with a monopoly of the fur trade in the countries he might discover, La Vérendrye, accompanied by three of his sons, a nephew and a party of soldiers and *voyageurs*, left for the unknown west, determined to traverse a country

which, according to popular idea, seemed to be peopled with devils rather than with men. It is almost impossible to realize what this plunge into the unknown meant in such an age. The superstitious fears of his comrades quite as much as the difficulties and dangers of the journey were enough to wreck the expedition. Without entering into unnecessary detail it is sufficient to say that La Vérendrye reached the islet-studded Lake of the Woods, where Fort St. Charles was built on a peninsula running far out into the lake, and where La Vérendrye stayed during the long winter whilst his eldest son, Jean-Baptiste, traversed on snowshoes the frozen surface of the Winnipeg River, in the confident belief that he was about to arrive at its entry into the great Western Ocean. Before the arrival of spring Jean-Baptiste had erected a fortified post, which was called Fort Maurepas, at the mouth of the Winnipeg—but still the unknown stretched ahead, for it was evident that the turbid waters of Lake Quinipigon,¹ a Cree word meaning muddy waters, could not be the long expected ocean.

Here, however, La Vérendrye came to an end of his financial resources, and an advance into the Western plains seemed impossible. He returned to Montreal and, working upon the cupidity of the traders, induced them to advance sufficient money to re-equip the expedition. Buoyed up by the success of his negotiation he returned in haste to his companions in advance of a relief party bearing stores to the small garrison at Fort St. Charles. On his arrival he despatched his son Jean—who had just arrived with the news of the death of his nephew, La Jemeraye—with several of the most active of the *voyageurs* to meet the expected supplies, but the party was surprised by a number of Sioux and massacred, their bodies being afterwards discovered lying in a circle, decapitated, and the heads wrapped in beaver skins in solemn mockery of the white man's love of furs. During the absence of La Vérendrye his sons had not been inactive. Exploring the southern shores of Lake Winnipeg they discovered the mouth of

¹ In addition to the various names of Lac Assenipolis, Lac Assinebouels, Lac Christineaux, and Lac Bourbon which have been given to Lake Winnipeg, there is an infinite variety in the spelling of its better known name. The Quinipigon of La Vérendrye becomes the Ouinipique of Dobbs, the Winepeck of Carver, and the Winnipic of Lord Selkirk.

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the Red River, and paddling up stream they finally reached its junction with the Assiniboine. The Canadian pioneers had reached the spot which 150 years later was to be the great meeting-place of Canadian traffic, the junction city between the Western and Maritime Provinces. Here they erected a rough post called Fort Rouge, which stood in the centre of the present city of Winnipeg. Pressing onwards, the explorers established a fort (Fort la Reine) on the Assiniboine, not far from the present city of Portage la Prairie. This was erected in the year 1736-7, and marked the then most westerly point of the Canadian advance. Whilst La Vérendrye and his companions were at Fort la Reine news reached them of a remarkable community of "white" men who lived on the banks of a great river to the south-west. It was asserted that unlike the Indians of the plains they lived in fortified villages and were not migratory in their habits. La Vérendrye was immediately fired with a desire to visit these strangers, and on October 16, 1738, selecting 20 of his best men, he left Fort la Reine on a journey to the Mandan country. On the way the party turned aside to visit a village of the Assiniboinés, with the result that the whole tribe accompanied them into the Mandan country, much to the discomfort of their unwilling hosts. But when La Vérendrye reached the Mandan settlement on the banks of the Missouri, it was only to find that there was no great difference between the Mandans and the other tribes of Indians, except that they were more civilized. The Canadians were forced to return to Fort la Reine, carrying with them their leader, who had fallen sick, but who, with grim determination, had resolved to face the fierce and biting winds of the approaching winter rather than remain in the newly discovered country. Yet again tales of bearded white men who lived in houses and prayed to the Master of Life reached the intrepid explorers. But La Vérendrye felt himself unable to set forth on a new journey and deputed the work to his two sons. In the spring of 1742 the two brothers again set forth on their way to the West; reached the country of the friendly Mandans; passed the limits of the prairie country; traversed the Bad Lands of the Little Missouri, where they noticed the "earths of different colours: blue, green, red or

black, white as chalk, or yellowish like ochre"; and pushed forward until, on the opening day of the year 1743, they saw upon the horizon a jagged outline—the sentinels of the distant Rockies. Day by day as they journeyed onwards, mighty snow-clad peaks loomed distantly upon the horizon. But just as they had reached the foot of the Rockies and were eager to pass over the formidable mountains, which they were convinced were the only barrier between them and the goal of their ambitions, the Indians with whom they were travelling decided to return in order to secure their squaws against a threatened attack by hostile tribes. The Vérendryes were forced to turn back. The exact route that was followed on this their last journey into the unknown West is a matter of controversy. What is certain, however, is that they were the first white men to gaze upon the Rocky Mountains and to point a way across the seemingly endless plains that separated Eastern and Western Canada. For a few years the elder La Vérendrye and his sons remained, hoping against hope for some adequate financial support to enable them to carry on their explorations. They were doomed to disappointment, but, three months before the death of La Vérendrye, in 1749, the intrepid adventurer, who had done so much to make Western Canada known to his countrymen, received a tardy recognition from the French king in the shape of the Cross of St. Louis and the rank of Captain. Neither the man, who had given his life in the pursuance of a great object, nor his sons, who had actively aided and seconded his efforts, were to receive the fruits of their labours. After the death of their father his two surviving sons asked to be allowed to continue their Western explorations, but new authorities were in office. The Governor, La Jonquière, refused his permission and seized the supplies and forts of the explorers, which he distributed amongst his own friends. Henceforth the Vérendryes drop out of the history of geographical discovery. Briefly stated, their discoveries, extending over a period of eleven years, were a remarkable achievement. Not only did they discover Lakes Winnipeg and Manitoba, but one of La Vérendrye's sons also discovered the mighty Saskatchewan. They added a new province to Canada, and with their father's

death closes the first chapter in the exploration of the West. The French had established their outposts in what is now the centre of the thriving province of Manitoba. They had explored the northern part of Lake Winnipeg, and had learned from the Indians of its connection with Hudson Bay by way of the Nelson River. But it was Joseph La France, a renegade French half-breed, who was the first, if we except Radisson, to traverse the country between the French settlements and the English forts on Hudson Bay. La France was born at Michilimakinac about the year 1707. From his earliest years he had been used to roughing it in the woods, and at a later period he became an unlicensed trader, sometimes selling furs through the Iroquois to the English, and sometimes providing the Indians with the fire-water that was subsequently to prove their undoing. Being refused a licence by the French Governor at Montreal, he determined to make his way to the English forts on Hudson Bay. He started on his wanderings early in 1739, and, after visiting Lake Winnipeg, finally reached York Factory by way of the Hayes River on June 29, 1742.

CHAPTER II

The English on Hudson Bay

Whilst the French were pushing westwards by the Southern route, the English on the shores of Hudson Bay were not altogether inactive. The first English pioneers who entered the Bay had contented themselves with distributing geographical names like largesse in the wake of their expeditions. They had not been successful in their trading ventures, and it was many years before they were able to emulate the commercial activity of the French fur traders, who were, on the whole, particularly successful in their commercial relations with the fierce and warlike natives with whom they came into contact. From a geographical point of view the discoveries of the hardy voyagers, who braved the terrors of these Northern waters and ventured amongst the heaving ice and tempestuous seas marking the entrance to Hudson Bay, were of great value. The gallant little *Discovery*, which had carried Henry Hudson on his last and disastrous voyage in 1610, and from which he and eight others were turned adrift in a small

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boat by a mutinous crew, subsequently carried many adventurous seamen into Hudson Bay. The "Bay of God's Mercies," assuming this to have been the southern portion of Hudson Bay, now known as James' Bay, was to bear the *Discovery* under happier circumstances. Soon after the mutineers had returned to England, leaving their master to the rigors of the Arctic North and to a painful death on one or other of the numerous islands in James' Bay,¹ the little *Discovery* was again sent forth on its perilous emprises under the auspices of a group of adventurers styling themselves the Company of the Merchants of London, Discoverers of the North-West Passage. Their object was to seek a way to China and the East. In this they were only following that will-o'-the-wisp of exploration which lured so many seamen and land voyagers ever Westward until finally the broad expanse of the Pacific was opened to the gaze of Alexander Mackenzie on July 22, 1793. The expedition was under the command of Sir Thomas Button, who, confidently expecting to sail without hindrance, found his hopes dashed by the impenetrable and barren shores of the western littoral of Hudson Bay, which was struck at a place to which he gave the expressive name of "Hopes Checkt." Button sailed down the coast, wintered at Port Nelson, and named the vast country lying to the west of the Bay "New Wales." A later explorer, James, subdivided the region into New North Wales and New South Wales. Later, Foxe, a native of Hull, called the territory New Yorkshire, and Jan Munk, a Danish navigator, termed it New Denmark. All these names have been swept into the limbo of almost forgotten things, like most of the names bestowed on the natural features of these cold and inhospitable coasts. Other voyagers sailed in the gallant little *Discovery*, including Bylot and Baffin (1615). In 1631 Foxe, in his ship *Charles*, entered the inlet which had been called Hubbard's Hope, where there was "a strong race of a tyde running sometymes eastwarde, sometymes westwarde," and which suggested to the expectant seamen the possibility of a new route to Far Cathay.

¹ "Of all the dark mysteries of the merciless ocean," writes Sir William Butler, "no mystery lies wrapt in deeper shadow than that which hangs over the fate of Hudson." Almost the sole evidence of Hudson's fate was discovered by Captain James 20 years later, when he found on Dandy Island a number of stakes, evidently cut with a hatchet, driven into the ground.

Hubbard's Hope, near to which the historic Prince of Wales Fort and Fort Churchill were subsequently established, proved a vain hope to the optimistic Foxe. Writing in his journal he says, "I hoped now for a sight of Hubbard's comfortable Hope," and as his ship entered the bay he wrote, "Hubbart makes me Hope," but having reached the end and tested the value of this new route to China, his tone changed, and his disgust is manifested in the words "I could see the bottom of *Vainely Hoapt Hubbert*, for so I call it." Foxe sailed away and wintered at Port Nelson, bringing his small vessel up the dangerous channel with great difficulty. Here he found remains of Button's earlier expedition, including a cross which the latter had erected in the true spirit of Western discovery. To this he nailed the following inscription, "I suppose this cross was first erected by Sir Thomas Button, 1613. It was againe raised by Luke Foxe, Captain of the *Charles* in the right and possession of my dread Sovereigne Charles the first, King of Great Brittain, France, and Ireland, Defender of the Faith, the 15 of August, 1631. This Land is called New Wales." In the same year Captain James, in the *Henrietta Maria*, sailed along the western shores of Hudson Bay. The failure of these two expeditions to discover any route to China practically put an end to the search by way of Hudson Bay, and for a quarter of a century all hope of this chimerical passage was abandoned. When the ventures were again resumed the objects of the adventurers were of a more practical nature. Furs, and not spices, were the bait that attracted voyagers to these barren shores.

The opening of Hudson Bay was mainly due to English gold and English sinews. But the beginning of the English connection with the American fur trade was owing to the enterprise of two Frenchmen, who had arrived in Canada within 10 years of each other, Pierre Esprit Radisson and Médard Chouart, Sieur des Groseilliers. Radisson and Chouart had made a number of journeys in Canada, the precise direction of which is still, and probably always will be, open to doubt. The faulty English in which Radisson's brief narrative is written, and the absence of geographical data, have given rise to considerable controversy as to the precise routes followed by the fearless adventurers. It is certain, however, that they pushed

westwards, and on the fourth occasion it is surmised from their references to "an old house all demolished and battered with bouletts," which has been assumed to be the house erected by Hudson when he wintered there in 1611, and from other internal evidences, that they reached the southern shores of James' Bay. At any rate they returned convinced that a rich harvest of furs was to be gathered along these coasts, and being out of favour with their own compatriots they visited the English settlements in New England, determined to lay their plans before the thrifty and grasping New Englanders. But the people of New England having no sufficient capital to finance an expedition to Hudson Bay, the two Frenchmen, with true Gallic enterprise, determined to visit London, where they arrived in 1667. Charles II, whatever his faults, had a keen eye for business. He welcomed the two strangers on the introduction of the versatile Prince Rupert, and the money of which they were in need was speedily forthcoming. A trading voyage was decided upon. On June 3, 1668, the *Eagle* and *Nonsuch* ketches left Wapping, but the latter, with Radisson on board, was obliged to return, the *Eagle* alone forcing the entrance to Hudson Bay. Chouart and his captain, Zachariah Gillam, sailed down the Bay, wintered at the mouth of the Rupert River, named after their patron, at the south-eastern extremity of James' Bay, where they erected Fort Charles, and commenced the first permanent settlement of the English people in the Dominion of Canada. Their enterprise was so successful, and such a rich store of furs was brought back, that it was decided to establish a company, "for a discovery of a new passage into the South Sea, and for the finding of some trade for furs, minerals, and other considerable commodities." Accordingly, the "Company of Adventurers of England, trading into Hudson Bay and the lands drained by the rivers flowing into the Bay," was incorporated by Royal Charter on May 2, 1670. The Company was entitled to the "whole trade of all those seas, streights, and bays, rivers, lakes, creeks, and sounds, in whatsoever latitude . . . within the entrance of the streights commonly called Hudson's streights, together with all the lands, countries, and territories upon the coasts and confines," and became sole and absolute proprietors of these enormous territories. On the strength of this Charter the Hudson's Bay

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Company were able to control, down to the date of the cession of its lands to Canada, the vast countries lying between the Bay and the Rocky Mountains, and were only forced to cede their rights owing to the growing and overwhelming opposition that finally arose to the continuance of their privileges. The territory over which they claimed and exercised sovereign rights was termed Prince Rupert's Land. For these privileges they were to pay to the King of England "two elks and two black beavers, whensoever and so often as we, our heirs and our successors, shall happen to enter into the said countries, territories, and regions." Much of the success of the Company was doubtless due to the fact that men of high political influence were connected with it, such as Prince Rupert, the Duke of York (afterwards King James II), and John Churchill, who later became celebrated as the Duke of Marlborough. In addition, men of wealth and position, great city merchants whose purse-strings were loosened to provide the wherewithal for its ventures, and whose purses subsequently bulged with the golden rewards of their commercial faith, became the financial controllers of its destinies. The original capital of £10,500 was repaid over and over again. The furs brought by the Indians to the posts established on Hudson Bay were exchanged for the blessings of civilization in the shape of guns, knives, hatchets, tobacco for the braves, and kettles and looking-glasses and combs to tickle the vanity of the squaws, each article having its allotted value in the skins collected by the neighbouring tribes. Little thought was given to the discovery of a passage to China when the dividends paid to the exalted and lucky shareholders sometimes reached 50 per cent. in one year, as was the case in 1684 and 1688. Nor was much attention directed to the possibility of traversing the forbidding territories that lay to the westward of Hudson Bay, and of making known the extent and resources of the vast interior districts.

The forts established on the rivers running into Hudson Bay were primarily trading settlements, to which the Indians brought their furs in the spring and from which the trading vessels sailed with their rich cargoes in the late autumn. They were generally strongly built, partly in order to secure immunity from attack by hostile natives, but more especially to enable the English traders

to resist invasion from a more dreaded foe—the French. The latter watched with jealousy the growing influence of the English, and were determined to seize and occupy their trading posts. In 1678 the French Minister, Colbert, instructed the Intendant of Canada that he was to dispute the presence of the English in

of Wales Fort, on the Churchill River, not far from the site of a much earlier fort originally built in 1688; York Factory, which was long one of the principal stations of the Company, at the mouth of the Hayes River and not far distant from the mouth of the Nelson River, where Fort Nelson was built in 1669; New



ALEXANDER MACKENZIE.

the North-West, and the brilliant expedition under the gallant and impetuous D'Iberville, the first great Canadian who secured for himself an immortal name in history, compelled the English to evacuate their forts and to return ignominiously to England. For some years a state of war prevailed, and the long conflict between France and England in America was marked by the taking and re-taking of these northern forts; whilst the vessels of the Hudson's Bay Company and the French Fur Company fought on the high seas. The principal of these forts in their order down the coast were Prince

Severn, or Savanne, at the mouth of the Severn River; Fort Albany on the river of that name; Moose Factory at the mouth of the Moose River, known as Fort St. Louis by the French; and Fort Rupert at the mouth of the river of that name. The first of these forts was built about the year 1721, or according to some authorities in 1733. It was designed as a massive testimony of the power and wealth of the Company, and stood at the west side of the entrance to the harbour at the mouth of the Churchill River. Its ruins may yet be seen occupying a commanding site on a rocky promontory over-

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looking the harbour. From their size and extent it is evident that the Company intended not only to hold the position against all comers, but to impress upon the Indians the strength and resources of the English traders. Both time and money were lavishly spent upon its massive stone walls, and the fame of the fortress doubtless spread over the North-West and duly impressed the wondering Indians. On the parapet were placed 40 of the most powerful guns then constructed, which now lie useless on its dismantled battlements. When the fortress was captured by the celebrated La Pérouse in 1782, after its surrender by its Governor Hearne, who had at the time a garrison of but 39 men under his command, La Pérouse attempted to destroy its massive walls. But masonry 40 ft. thick and over 300 ft. in length resisted his efforts, and the remains of Prince of Wales Fort are to-day one of the most picturesque and striking evidences in the North-West of the romantic and almost forgotten past.

Whilst, however, the Company were engaging in these warlike and commercial enterprises in the north, they were neglecting their obvious duties of exploring and opening the country under their charge. One of the charges brought against them in 1749, when the affairs of the Company were inquired into by a Parliamentary Committee, was that little or nothing had been done to explore their territories. To this the Company replied by producing the journal of Henry Kelsey, who, they asserted, had been sent inland for the special object of making discoveries and of bringing down the Western Indians to trade at the Bay. Critics were not slow to discover that Kelsey had been a fugitive from what he regarded as the severity of the Governor, and some doubt was thrown upon his story. It is probable, however, that he actually did penetrate a considerable distance into the interior in company with some friendly Indians about the year 1690. It has been generally assumed that his course was south-west, and it has even been asserted that he reached Lake Winnipeg. His own journal does not contain any evidence on this point, although it seems possible that his journey took him into the open country north of the Saskatchewan. But it is far more probable that he went due west,

and then far to the north of the regions generally supposed to have been visited by the runaway traveller. Here he fell in with a party of Stone Indians, or Assiniboines, with whom were a number of Crees. Whatever may be the final opinions as to Kelsey's route it seems certain that he was, so far as is known, with the exception of Radisson, the first white man to explore any portion of the North-West. But the Hudson's Bay Company had a poor case when they were only able to point to this solitary journey inland during so many years of operations upon the coasts, and the criticisms of their detractors were not altogether without foundation.

Anthony Hendry was the first Englishman who really pushed far into the interior. His manuscript journal contains an account of the journey he made in 1754-5, when with a company of Indians he left York Factory on his long and arduous voyage of discovery. He left the headquarters on June 26, 1754, and journeyed up the Hayes River. On July 6th he reached Attick-Sagohan, or Deer Lake, as he terms it, which has been identified with the present Oxford Lake, where afterwards Oxford House, one of the Hudson Bay posts, was established. Journeying forward by land and water, carrying his canoe wherever the waterways failed, he at length reached Moose Lake, after having crossed the Nelson River, and pressing onwards gazed upon the broad waters of the mighty Saskatchewan—the first Englishman to reach this point. Here he came across the French fort, which had been built by La Corne de St. Luc during the previous year. Hendry's presence was not unnaturally unwelcome to the French traders on the Saskatchewan, who suggested that he should be detained until the return of their master, La Corne, but Hendry, taking time by the forelock, left after a short stay, and went towards the open plains in search of game. Here, in the country between the two branches of the Saskatchewan, he met with the countless herds of buffalo with which Western Canada at that time abounded. They were so numerous, writes Hendry, that "we had to make them sheer out of our way." He also fell in with small parties of the Asinipoet or Assiniboine Indians as well as with a party of Blackfoot Indians, by whom he was taken to inter-

view their chief. These were members of the Great Blackfoot Confederacy, tales of which were then reaching the Eastern portions of Canada. When Hendry subsequently returned to York Factory on June 20, 1755, his stories of these mounted Indians were disbelieved, and the unfortunate traveller was regarded as a modern Mandeville trading upon the credulity of his hearers. There is every reason, however, to believe that his account of this powerful confederacy is substantially correct, and there is no reason to doubt that he wintered in their midst at a point west of the Red Deer River, one of the tributaries of the South Saskatchewan. There is no doubt whatever of the truthfulness of his account of the immense numbers of all kinds of game in the country he traversed, for the prairie country abounded with buffalo, moose, deer, hares, pheasants, geese, and wild duck. Such, in brief, is the story of Hendry's remarkable achievement, to which full justice has not been done as yet. His journey served to put new life into the dry bones of the Hudson Bay commercialism. It convinced the officials of the Company that there were vast stretches of territory which were capable of yielding an abundant harvest of furs if only trading posts could be established in the interior, in order to secure the riches that would otherwise be poured into the French outposts; for the Indians of the interior had assured Hendry that it was much easier for them to trade with the French than to attempt the long and perilous journey to the Hudson Bay forts. The Blackfoot chief had been openly incredulous of the ability of his braves to accomplish such a journey, more used as they were to hunting on horseback than to paddling along the intricate waterways that led to York Factory. Events moved slowly however. The French War was to intervene and the whole of Canada to pass under English sway, and many of the French trading posts were to be abandoned before the Hudson's Bay Company was ready to adopt a forward policy. So late as 1770 it had only one establishment inland, at Henley House, 100 miles from Fort Albany. The policy of masterly inactivity continued so long as the neighbouring Indians were willing to sell their profitable supplies at the maritime trading stations.

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CHAPTER III

D'Iberville

The whole of the territory granted by Charles II to the Hudson's Bay Company was also claimed by the French. As a matter of fact neither France nor England had any but the most shadowy claims to jurisdiction over these vast and unknown wastes, and where actual right was wanting it merely became a question as to which of the two contending nations would in the end prove the stronger. As we have seen, Colbert,¹ son of one of the greatest of France's many able ministers, whose mental horizon had not been limited by the Rhine, the Alps, and the Pyrenees, and who had seen clearly that the trade of France could not be confined to the frontiers of Europe, gave instructions that the English traders were to be driven from Hudson Bay. It was only too evident that the position of New France was seriously threatened by the growing power of the English settlements in New England and the presence of English ships and forts in the Far North. The Canadian merchants were likely, moreover, to lose a considerable proportion of the fur trade, and their vigorous protests against the competition of the English traders were not unjustified.

At this juncture there stepped into the breach one of the most brilliant of those military leaders who won their laurels in the long and stirring conflict between France and England in North America. Pierre Le Moyne, Sieur D'Iberville, was the third of the 14 children of Charles Le Moyne and Catherine Thicrry Primot. From boyhood he was distinguished for his hardy and energetic spirit and his extraordinary force of character. His life on the edge of the wilderness had inured him to the hardships of pioneer life. He had been trained, moreover, in the reorganized French Navy and excelled in mathematics, artillery, and seamanship. Above all he was a born leader of men. As a native-born Canadian he naturally sympathized with the Quebec merchants, who had formed the "Compagnie du Nord" in order to trade for furs along the shores of Hudson Bay, and who had been deeply roused by the treachery of Radisson, for after serving the English he had taken service with the French only to betray his

new masters to their rivals. D'Iberville and two of his brothers volunteered to serve with a troop of soldiers and Indians who, under De Troyes, had been instructed to proceed against the English forts. Although they were not attached to the force in any official capacity, D'Iberville and his brothers took a most important part in the expedition. They advanced northwards through the limitless forests that barred the way to the nearest English settlement—"a troop of dare-devil barbarians sweeping down the forested waterways of the north." They reached Hudson Bay on June 18, 1686. Their arrival was totally unexpected. Uttering the Iroquois war-cry D'Iberville and his companions swooped down upon Fort Moose and wrested it from the English. Rapidly advancing upon Fort Rupert the same tactics were repeated, and again the English outpost fell before the determined attack of the Canadians. Here they seized a vessel and proceeded to Fort Albany, then the principal English depôt on the southern shores of the Bay. This was attacked and taken, and the French were masters of the southern littoral of Hudson Bay. Officially France and England had been at peace, but war broke out in earnest and it was felt that the work of the raiders was incomplete so long as Fort Nelson remained in English hands.

In 1694, therefore, D'Iberville sailed from Quebec in command of a small fleet and arrived before the English settlement. The English traders, expert in trade but untrained in war, having no alternative but to surrender, gave up the fort to D'Iberville.

Time and again Fort Nelson changed hands. In 1697 D'Iberville, in his ship the *Pelican*—50 guns and 150 men—slipped past an English squadron and arrived off Fort Nelson, thinking that his other ships were following in the wake. But in this he was mistaken, and he soon awoke to the fact that he was in a desperate position between the guns of the fort and an English squadron of three ships, one of which was superior to his own vessel whilst the other two were little inferior. Here the genius, resource, and brilliant seamanship of the French commander were demonstrated. By a series of masterly manœuvres D'Iberville managed to pour a broadside into the largest of the English ships with such deadly effect

that it went down with all hands. The second vessel, after a stubborn resistance, surrendered, whilst the third managed to effect its escape. At this juncture, in spite of his brilliant success, D'Iberville nearly suffered irretrievable disaster. During the night a terrific storm arose and his battered and ice-covered vessel, staggering before the terrible blasts of the northern blizzard, was driven ashore, and D'Iberville and his companions were obliged to swim to land through the icy-cold waters of Hudson Bay. In this emergency, however, his star shone brightly: the remainder of his small squadron arrived, and D'Iberville, by an impetuous attack upon the palisaded fort, broke down all resistance, forced the capitulation of the garrison, and once again obtained possession of Fort Nelson.

The Battle of Hudson Bay made the French virtual masters of the whole region with its vast wealth of furs. But on September 20, 1697, terms of peace were arranged between France and England at the Treaty of Ryswick, under which Fort Albany, which had been in the possession of the Hudson's Bay Company at the outbreak of the hostilities, again reverted to the English. The terms of the Peace of Utrecht, which in 1713 concluded the quickly resumed war, were far more favourable to the interests of the Company, for it provided that the French should leave the Bay within six months.

For the next half century the trade in furs was so remunerative as to make good all the losses that had been sustained in the long conflict for the possession of Hudson Bay between France and England, or rather, between the merchants of New France and the merchants of London. The English settlements were thenceforth rooted on the seaboard, and stronger and stronger grew their hold upon the trade with the Indians of the North-West. The victories of D'Iberville were of no avail, for the forts on Hudson Bay were treated as so many pawns on the chessboard of European diplomacy. Fortune and dividends smiled upon the shareholders in the English corporation, but the founders of the "Compagnie du Nord" were obliged to confine their energies to the basin of the St. Lawrence and its network of waterways.

¹ Jean Baptiste Colbert, Marquis de Seignelay.

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CHAPTER IV

Hearne and Mackenzie

With the signing of the Treaty of Paris in 1763 there opened a new era in the history of Canada. The opportunities that had been created by the energy and daring of the Canadian explorers and traders, and by the activity of the merchants of Montreal and Quebec, were sacrificed by French administrative folly. The discoveries of the Vérendryes were nullified by parsimony and want of appreciation on the part of the French authorities. Had they only realized the importance of the territories that lay beyond the settlements in New France, it is probable that greater efforts would have been made to retain Canada for the French. But their value was not understood, and Canada as a whole was generally regarded as of less importance than the West Indian Islands. Sea power alone could have preserved to the French their possessions in North America. It was precisely at this juncture that adequate naval support was not forthcoming, the final result being that Wolfe's victory on the Plains of Abraham put an end to French domination in the West. Henceforth England controlled the destinies of North America. One by one the isolated trading stations in the interior fell into the hands of the English. Some were abandoned and left derelict; others merely changed masters. But even when Canada had fallen it was some years before the Hudson's Bay Company realized the necessity for a forward movement into the interior. In the Mother Country there was the deepest ignorance regarding the extent and value of the great territories that had passed under British control. The Hudson's Bay Company, finding their most dangerous rivals removed from their path, were at first content to continue their old policy of inviting the Indians to bring their furs to the forts on Hudson Bay. The directors saw no reason for advancing into the frozen wilds so long as supplies of furs were brought to their doors. The fall of the French outposts and the outbreak of an Indian war temporarily stopped the overland trade in furs. Pontiac and his redskins destroyed several forts from Lake Michigan to Niagara and massacred their inhabitants, and the disturbed state of the country was not favourable to commercial enterprise. But English and Scottish traders gradually made their way west-

wards. A party succeeded in reaching Fort La Reine in 1767 and commenced to traffic with the redskins of the west. Alexander Henry, the elder, obtained a licence of the exclusive trade of Lake Superior, and in due time commenced a profitable trade in beavers. Other merchants followed. A Scotchman, Thomas Curry, journeyed along the old French routes and reached the Lower Saskatchewan River, and was rewarded with a rich store of furs. James Finlay, of Montreal, travelled even further; whilst Joseph Frobisher, a member of the fur trading firm of McTavish, Frobisher & Co., built a fort on the Red River, and in 1774 penetrated to the Churchill River, where he established a fort at Frog Portage, "the doorway that led from the Saskatchewan and the known east, to the unknown west, to that limitless land of forest and plain, mountain, lake, and stream, that lies beyond the Saskatchewan."

The ventures of these and other traders soon alarmed the conservative officials of the Hudson's Bay Company. Instructions were sent from England that the old policy of splendid inactivity was to be abandoned, and it was decided that Samuel Hearne, who was employed at Fort Churchill, should be sent northward to discover the rich deposits of copper which were said to exist near the mouth of a great river visited by the Indians. The choice of a pathfinder was a good one, for Hearne had perseverance and endurance in a marked degree. Two unsuccessful attempts to cross the barren lands that lay between Fort Churchill and the object of his quest did not daunt his ardour, but increased his determination to reach the famed deposits of copper. On November 6, 1769, cheered with the salute of seven cannons, Hearne marched out of the fort only to return after a few days owing to the desertion of his guides. Again the following year, having been absent for over eight months, he was obliged to return after "a fruitless, or at least unsuccessful, journey." But the second journey was not altogether "fruitless," for on his way to the fort he had been joined by an Indian named Matonabee, who clothed and fed the half-frozen explorer and volunteered to act as his guide should he again attempt to reach the northern mines. Once more Hearne left Fort Prince of Wales. The story of his journey properly belongs to the history of Arctic exploration, for it led Hearne into lands of lengthening sunlight,

where the continuous day finally warned him that he had passed within the Arctic Circle. Over the barren lands of Northern Canada; through a vast region of frozen rivers and lakes; across great plains, portions of which have not again been traversed by the white man; and over rock-strewn mountainous country where frequently they had to crawl on hands and knees, went Hearne and his redskin friends. But the search for the fabled riches proved disappointing. When Hearne arrived at the Coppermine River it was found that the vivid imagination of the Indians had yet again misled the white man. But the results of his journey were nevertheless highly important. The barren territory of which he took formal possession was of no value to his employers. But by cutting across the continent to the Arctic Seas he had demonstrated the impossibility of a direct waterway between Hudson Bay and the Western Ocean. The North-West Passage was shown to be so far northwards that it would be useless for all purposes of navigation. The time-honoured theory that it was but a step from the western shores of the Bay to the Pacific Ocean was at length exploded, and the vastness of the north-western lands was in part demonstrated. On his return Hearne was rewarded with the dignified post of Governor of Prince of Wales Fort, where he remained until La Pérouse sacked and partly destroyed the fortress in 1782.

Whilst Hearne had been toiling over the wastes of Northern Canada the traders of Montreal had been pushing further and further to the west. On his return to Prince of Wales Fort it was evident that a crisis was arriving in the affairs of the Company. Much of their trade was being slowly but surely filched away by newcomers, who had not even the excuse that they were trading on behalf of another Government, but were only vindicating the claims of private enterprise against the rights of monopoly. For it was evident that the independent traders, who were subsequently to found the rival North-West Company, were determined to cut across their trade routes and to intercept the supplies of furs that would otherwise find their way to the forts on Hudson Bay. It was impossible for the Company to disregard the gage of battle thrown down by Frobisher when he established his fort at Frog Portage. With their business instincts sharpened by the keen competition

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they anticipated with the Hudson's Bay Company, the Montreal traders foresaw that, if they were to hope to rival the trade of the long-established monopoly, they must not only follow the routes of the old French traders, but must also divert towards the southern lines of communication the streams of trade then going to Hudson Bay. In order to secure the triumph of victory it was necessary that their trading posts should be pushed right across the enemy's country. This encroachment upon the sacred preserves of the Company led to instructions being sent to Hearne to establish forts in the interior. Accordingly in 1774 a fort was established by Hearne at Cumberland House, on Sturgeon Lake, within easy reach of the rival establishment of the Montreal traders. With the building of Cumberland House the Hudson's Bay Company entered in earnest into their long conflict with the newcomers. The first result of their acceptance of the challenge was to consolidate the independent fur traders in their opposition to the Company. Their plans were well and daringly laid, with remarkable energy and with rare skill in the choice of suitable strategic points. The following years witnessed an active extension of forts in all directions, the Company and the traders crossing and re-crossing each other's routes in the endeavour to secure the bulk of the fur trade. Forts were built in districts as far apart as the Upper Saskatchewan and Lake Winnipeg. The former was at Edmonton House; the latter was erected at the mouth of the Winnipeg River not far from where Fort Alexander now stands. In 1794 the Company pushed right across the route of their rivals and established Brandon House, about 17 miles below the present city of Brandon, and in 1799 the Red River proper was taken possession of by the Company. Thus within a quarter of a century they had extended their operations over a great portion of the North-West, driven to this active policy by the severe competition of the Montreal merchants.

The latter, who had hitherto acted independently, or only in consultation with each other, by the pressure of competition were forced to band themselves together into a company. Accordingly, in 1783-4 the affairs of the merchants were placed in the hands of Benjamin and Joseph Frobisher and Simon McTavish, who organized and administered the new North-West Company, which was so long to be a

formidable rival to the older Company until it was absorbed by them in 1821. But the Montreal merchants were not entirely united. Two other traders, John Gregory and Alexander McLeod, being dissatisfied with the management of the North-West Company, entered into partnership with two Western traders, the impossible and cantankerous Peter Pond and Peter Pangman, and organized the X.Y. Company, which, during a brief but extremely active career, kept matters lively in the North-West. On the death of McTavish in 1804 the two Montreal companies were united. During its short existence the X.Y. Company had attracted several notable men to its side. Amongst them was Alexander Mackenzie and his cousin, Roderick Mackenzie. Like the majority of those who have played an important part in the building of the Great North-West, Mackenzie was a Scot. Born at Stornoway in the year 1755, young Mackenzie found his way to Montreal in the palmy days of the fur trade. Here his attractive and strong personality soon drew attention, and it was not long before he was actively employed in the services of the merchants and engaged on those great exploring expeditions which were to roll back the map of the West and to open its lands to the tread of future generations. Mackenzie was a man of boundless ambition, and the opportunity of putting his secretly nourished plans into operation came when he was given charge of the Athabasca District, where Peter Pond, representing the X.Y. Company, and a Mr. Ross, agent of the North-West Company, had already established their stations. The two traders, however, had come into conflict, with the result that Ross had been fatally shot by his fiery antagonist, and it was decided that the Companies should establish a fort in common, in order to minimize the risk of conflict in these inhospitable regions. Traders had already penetrated as far as Lake Athabasca, the Great Slave Lake, and the Peace River Country, and Mackenzie decided that the time had arrived for the establishment of a fort on the shores of Lake Athabasca itself. Accordingly, in 1788 he sent for his cousin Roderick, who established a fort "in a beautiful, healthy situation, in the centre of many excellent and never failing fisheries," which was called Fort Chipewyan. This was afterwards removed to the northern side of the Lake, and was

for many years the most important establishment in the far North-West, the centre of a great trade with the Indians of the northern regions and the great territories stretching westward to the Pacific. Here, in the following spring, Mackenzie took up his quarters and made his preparations for his dash to the north. On June 3, 1789, accompanied by four French-Canadian *voyageurs*, a young German named Steinbruck, an Indian chief, and his redskin interpreters, as well as by one Laurent Leroux, who proposed to accompany the party as far as Great Slave Lake, Mackenzie set forth in his canoes on his long journey. By the 9th of the month the party had arrived at Great Slave Lake, after running the gauntlet of a host of gnats and flies which accompanied them as far as this point. For five days they waited an opportunity to cross the frozen lake, and finally, after battling by day with the ice which had become broken by the force of the gales, and camping by night on the islets that stud its waters, they reached after ten days' strenuous work the northern shores of the lake. Coasting along the littoral Mackenzie discovered the mighty waterway which now bears his name and flows northwards in its majestic and isolated splendour, to mingle with the icy seas of the Arctic Ocean. Pluck, perseverance, endurance, and, above all, a masterful domination over his companions, enabled Mackenzie to accomplish his journey to the Arctic. The Indians, filled with superstitious fears of incredible monsters which peopled the barren wastes through which they were to pass, would willingly have turned back, but their leader proved equal to the emergency, and by sheer force of character overcame their opposition. Neither fears of the fabled Manitou, which swallowed every person that approached it, and other monsters of fearsome shapes and terrible powers, or the much more real danger of being caught by the Arctic winter, deterred Mackenzie from his enterprise. On July 12th, Mackenzie's object was at length achieved. The travellers arrived on what they believed to be another lake of considerable size, where whales were seen disporting themselves, and where no further land appeared visible to the north. Although Mackenzie still doubted the successful termination of his voyage, in spite of the fact that he thrice witnessed the rise and fall of the Arctic tide, he had reached the Northern Ocean at

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a point far to the west of the mouth of the Coppermine, and not far distant from the present Alaskan territory.

But other and far greater discoveries awaited the intrepid traveller. As he made his way homewards up the Mackenzie, he conceived the idea of surmounting the mighty barrier that lay between the plains of the West and the salt waters of the Pacific. He had already caught a glimpse of the Rocky Mountains on his way to the Arctic Ocean. As he viewed their towering crags, "which appeared to be sprinkled with white stones, glistening in the sun," he doubtless thought of the ocean that lay beyond and of the possibility of reaching its distant shores. Moreover, his journey to the North was not likely to be productive of much gain to the North-West Company, whereas the unknown lands to the West were reported by the Indians to be rich in minerals and gold, and were certain to yield a great harvest of furs to the traders. But it was some time before he was able to put his project into execution, and a journey to England intervened before he left Fort Chipewyan (on October 10, 1792) on his second and most important voyage of discovery. The story of Mackenzie's daring journey to the Pacific is one of the most fascinating in the annals of geographical discovery. Undeterred by the difficulties and dangers of the way and the arduous nature of a journey through what could not fail to be some of the wildest and most difficult country in the whole of North America, where the stupendous works of Nature were only too likely to demand the most severe and exacting toil, Mackenzie and his companions set forth on the first stage of their journey up the Peace River. It was necessary to establish an advance post in the wilderness from which the travellers could proceed on their western journey in the early spring. Arrived at the junction of the Smoky and Peace Rivers, Mackenzie erected his winter quarters at a spot not far distant from this point. It was not until May 9th that he set forth on the second and most hazardous portion of his journey. In his own book he has so graphically described the perils and hazards, the incessant toils and terrible hardships, of their fight against the swirling waters of the rivers they navigated, that it is unnecessary to dwell upon this aspect of their journey. At times

their canoe was so beaten and buffeted by the downcoming waters that it was almost destroyed. On other occasions it became necessary, in order to pass the rapids, to drag their boat overland, hewing a path through the wilderness, and by incessant labours again regaining the stream at some higher point. Mackenzie, who was now exploring the upper waters of the Peace River, wrote enthusiastically of the new country. "The west side of the river," he said, "displayed a succession of the most beautiful scenery I had ever beheld. . . . Groves of poplar in every shape vary the scene, and their intervals are enlivened with vast herds of elks and buffaloes." Finally, after passing through most rugged and magnificent scenery, the party arrived at the forks of the Peace River, and Mackenzie, on the advice of a native guide, took the southern branch and followed the Parsnip River to its source in a small lake. Here the traveller stood at one of the remote sources of the mighty Mackenzie, 2,400 miles from the mouth he had discovered but four years before.

This spot marked the summit of the Great Divide, for a march of 817 paces brought them to another small lake from whence a stream flowed to the west. The explorers had crossed the watershed of the American continent and had found the key to the Pacific Ocean. The stream down which they now forced a passage was so encumbered with rocks and rapids, whirlpools and driftwood, that a later explorer, Simon Fraser, bestowed upon it the name of Bad River. But after passing through incredible dangers and quelling one of the frequently recurring mutinies amongst his men, Mackenzie and his companions "enjoyed the inexpressible satisfaction of finding themselves on the banks of a navigable river, on the west side of the first great range of mountains." They were, in fact, upon a branch of the Fraser, but after journeying down stream disappointment awaited them when they discovered that the river turned due south and learned from the Indians of its long course to the sea. At this juncture Mackenzie decided to leave the river and to travel overland to the ocean. Day after day the travellers pushed on towards the object of their search, until at length, on the morning of July 20, 1793, they caught sight of the islet-studded waters of the Pacific Ocean, which was struck at the point which Vancouver on

his surveying voyage had visited shortly before—Point Menzies. Following the coast Mackenzie arrived at the entrance to Cascade Canal, where on a rock facing the ocean he painted this brief memorial: "Alexander Mackenzie, from Canada, by land, the twenty-second of July, One thousand seven hundred and ninety-three." Thus was completed the circuit of Canada. From the Atlantic to the Pacific, and from the Great Lakes to the Arctic, the way was now opened for the benefit of those who should come to settle upon its fertile plains, to build new homes in the Far West, and to people the wilderness. Other pioneers trod unknown paths and opened new ways. A notable body of men, among whom were David Thompson, Simon Fraser, Sir George Simpson, Daniel Harman, and Alexander Henry, the younger, were yet to explore the waterways and wastes of Western Canada, but to Alexander Mackenzie belongs the honour of finally opening the road to the Pacific.

CHAPTER V

Lord Selkirk's Colonists

In the early days of the eighteenth century the whole of the North-West was a *terra incognita* inhabited by scattered tribes of Indians, some of whom brought their furs to the outposts on Hudson Bay and the forts of the French traders, but the vast majority of whom had never seen a white man. Hundreds of miles of practically virgin territory stretched into impenetrable distance to the west of these outposts of civilization. At the beginning of the nineteenth century the fur dealers had established themselves at many distant spots on the vast unoccupied prairie lands; the way to the Western Sea had been discovered; the far off Arctic shores had been visited; many of the great waterways had been traversed and some traced to their sources; and the fur traders and adventurous and lively *Métis*, or *Bois-Brûlés*, as the half-caste descendants of the early French *voyageurs* were termed, were wandering over the country in search of new avenues of trade, discovering fresh routes, traversing the intricate waterways of the West, and laying open the map of Western Canada. But in spite of this activity the North-West was practically an unknown country. The *voyageurs* and traders were a race apart, and the people

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of Eastern Canada as a whole knew little of the great lands which furnished the Montreal traders with their rich supplies of furs. Buffalo roamed over the prairies in vast herds, and the country was still to all intents and purposes an immense game reserve and sanctuary for the fauna of the north. But the outposts of the rival companies were being scattered over Rupert's Land in many and far-distant places. Fort Chipewyan had been built on the southern shore of Lake Athabasca in 1788; Fort Providence was erected on Great Slave Lake in 1790; Fort Livingstone was established on the Mackenzie River in 1796; in the same year, almost within the Arctic Circle and on the same mighty waterway, was built Fort Good Hope; whilst Fort Norman, a half-way house between the two, was established in 1810. Beyond the Rocky Mountains, in the country to be known as British Columbia, Fort McLeod¹ was established by Simon Fraser on the Parsnip River in 1805; Forts Fraser and George were built on the Nechacho River, one of the arms of the Fraser River, in 1806 and 1807; Fort St. James was established on Stuart Lake in 1806; and in the south of British Columbia Fort Kootenay was founded in 1807. In 1804 the North-West Company erected Fort Gibraltar on the site of the present city of Winnipeg. But the traders, although they were valuable geographical pioneers, had no part in the subsequent settlement of Western Canada. As a matter of fact they were bitterly opposed to the introduction of agriculturists, before whose advent it was certain that the gunc would retire into the fastnesses of the north whilst their trading profits would become correspondingly diminished. It was left to a patriotic Scot to be the real pioneer of the West, to break down the wall of monopoly that had been erected across the path of the settler, and to throw down the gage of battle before the powerful companies who preferred that Western Canada should remain a magnificent wilderness rather than become a beautiful land of golden wheat. Amongst those who had read the fascinating account of Mackenzie's daring journey across the continent was a young Scottish nobleman, the seventh son of the fourth Earl of Selkirk, who had unexpectedly succeeded

to his father's title in 1799. Selkirk was active, patriotic, generous, and above all imbued with liberal and advanced ideas. In the truest sense of the word he was a keen and ardent patriot who desired the welfare of his fellow-men and was prepared to use his name and influence in the furtherance of schemes for the amelioration of the distress he found around him. A keen student of the progress of the French Revolution, the ideals of which he had studied with sympathy, he was nevertheless an aristocrat at heart; but one of the best type, fully convinced of the necessity for the strict maintenance of law and order. During his lifetime he was frequently regarded as a crank and he has been described as a "kind-hearted but eccentric Scottish nobleman." With the passage of time, however, we have been enabled to see Selkirk in a true perspective, and he must now be regarded as one of the most far-seeing and patriotic of those great Empire-builders who have helped to make the British Empire what it is at the present day. In his own day scant justice was done to his honest endeavours to found a great community in a far off land. The wisdom and foresight of his choice of territory were generally overlooked, and the apparent failure of his carefully laid plans was chiefly dwelt upon by friends and enemies alike. Yet to Selkirk we chiefly owe the breaking down of the grinding monopoly which would have held Western Canada in the thrall of the fur traders, and would have prevented its settlement by honest and industrious farmers and tradesmen.

To a person of his enthusiastic temperament the difficulties and dangers in the way of successfully transplanting a band of emigrants from the North of Scotland and the West of Ireland were small, compared with the advantages that would ensue from the successful colonization of the great tracts of unoccupied territory in the far West of Canada. His plans were well and carefully laid. After an unsuccessful request in 1802 to the British Government to be allowed to found a colony on the shores of Lake Winnipeg, Selkirk decided himself to visit Canada and to learn as much as he could on the spot of the conditions of the country. In the following year he was at Montreal quietly collecting information from the Scottish traders, who enthusiastically welcomed a fellow countryman of distinguished lineage—for he was

a cadet of the ducal house of Hamilton and a member of the heroic family of Douglas—and invited him to their social gatherings, where he heard the *chanson* sung by *voyageurs* and listened to stories of the wild and fascinating lands of the West. Afterwards, when his plans were matured and being carried into execution, the Montreal merchants became his bitterest enemies, and he was freely accused of spying out their trade for the purpose of learning their secrets. Selkirk returned to Europe convinced that Canada was a land of hope, offering a full reward for honest toil and endeavour. Whilst maturing his plans for transferring to Western Canada those of his countrymen who were prepared to face the hardships of a battle with the stubborn forces of Nature in an unknown land, he tentatively formed a settlement in Prince Edward Island and subsequently at Baldoon, near Lake St. Clare, in Upper Canada, and at a later period he began systematically and quietly to buy shares in the Hudson's Bay Company. Fortunately for Selkirk, the keen competition of the North-West Company had caused the shares of its long established rival to fall in value, and he was thus enabled to obtain a controlling voice in the affairs of the Company. Here, however, he came into active conflict with Sir Alexander Mackenzie, who having returned to Scotland, where he still interested himself in the affairs of the North-West Company, was the guardian of its interests in Britain. Learning that Selkirk was about to put his long cherished colonization scheme into execution, and fearing that the interests of the Montreal merchants would be vitally affected by this intrusion upon the preserves of the fur traders, Mackenzie also purchased sufficient stock to give him a footing in the Hudson's Bay Company, and commenced that prolonged conflict between traders and settlers which was only ended when Western Canada was finally dominated by the latter. Selkirk and Mackenzie with his friends John Inglis and Edward Ellice, were the protagonists in two utterly irreconcilable ideals. The one, ardent and enthusiastic, seeing with prophetic vision the miles of golden corn ripening in the Canadian sunshine; the others, hard and experienced men of affairs, seeing only in the vast wilds the peltries upon which they had built up their fortunes. The first round in the long duel went to Selkirk. By virtue of his controlling interest in the

¹ There were three forts McLeod, the other two being on the Peace River and on the Old Man's River in the south of Alberta.

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Hudson's Bay Company, he secured from them a grant of a vast tract of country, 116,000 square miles in extent, covering much of the present province of Manitoba and a great portion of the country which now forms the States of Minnesota and North Dakota. The deed, a lengthy and involved document, was signed on June 12, 1811, and provided that "in consideration of the sum of ten shillings of lawful money of Great Britain to the said Governor and Company well and truly paid by the said Earl of Selkirk . . . and for divers good and other valuable causes and considerations . . . the said Governor and Company have given, granted, alienated, enfeoffed, and confirmed . . . unto the said Earl of Selkirk, his heirs, and assigns, all that Tract of Land . . . bounded by an imaginary line running as follows (that is to say), beginning on the western shore of Lake Winnipic, otherwise Winnipeg, at a point fifty-two degrees and thirty minutes north latitude and thence running due west to the Lake Winnipegosis, otherwise called Little Winnipeg, then in a southerly direction through the said lake so as to strike its western shore in latitude fifty-two degrees, then due west to the place where the parallel of fifty-two degrees north latitude intersects the western branch of the Red River, otherwise called the Assiniboine River, then due south from that point of intersection to the Height of Land which separates the waters running into Hudson's Bay from those of the Missouri and Mississippi, then in an easterly direction along the said Height of Land to the source of the River Winnipic or Winnipeg (meaning by such last named River, the principal branch of the waters which unite in Lake Saginagas), then along the main stream of the waters and the middle of the several lakes through which they flow to the mouth of the Winnipic River, thence in a northerly direction through the middle of Lake Winnipic to the place of beginning."

It will be seen that, vague and uncertain as were these boundaries, especially those to the south, they included the valleys of the Red River and the Assiniboine, undoubtedly one of the most fertile districts in North America. To the north the territory extended as far as the frontier of the province of Manitoba as it existed prior to the recent northern extension. Lord Selkirk had not obtained this grant without careful inquiry into the right of the

Hudson's Bay Company to dispose of so valuable a section of its territories. Before embarking on his great venture he made certain as to his exact legal position. The highest authorities pronounced the original charter of the Company to be a valid legal document, and expressed the opinion that "the grant of the soil contained in the charter is good, and that it will include all the country, the waters of which run into Hudson's Bay, as ascertained by geographical observations," and further that "an individual, holding from the Hudson's Bay Company a lease, or grant in fee simple, of any part of their territory will be entitled to all the ordinary rights of landed property in England." Although Selkirk's opponents subsequently disputed the legality of his position, and obtained legal opinion of a "cautious and non-committal character," they never ventured to dispute his claims in a court of law. Fortified with his grant of land, Selkirk now began to make active preparations for the settlement of the territory, and in the prospectus of the new colony, with a liberalism that was rare in that age of sectarian strife, he stated that "the settlement is to be formed in a territory where religion is not the ground of any disqualifications and unreserved participation in every privilege will therefore be enjoyed by Protestant and Catholic without distinction."

But before the colonists who had been gathered together were able to leave Scotland the first act in the long and unscrupulous warfare waged by his enemies was unfolded. The Collector of Customs at Stornoway was married to a niece of Mackenzie, and he and his son-in-law did everything they could to stop the sailing of the expedition. Some of the would-be colonists were persuaded to enlist in the army, and at the last moment the Collector appeared on board and asked those who were not willing to sail to return again on shore. In the words of Miles Macdonell, who had been placed in charge of the small company of men and women, "several said they were not willing, and many went over the ship's side into Captain Mackenzie's boat." Finally, however, the colonists arrived at York Factory on Hudson Bay on October 5, 1811, and commenced their long and stubborn struggle against the forces of Nature and the malice of man. Exclusive of the officers and crews, 105 persons composed the little band of emigrants—labourers and writers—while some

of them were children and others already well advanced in life. Their first winter in Canada was a period of discontent. The colonists were kept busy in erecting rough log dwellings to protect them from the icy blasts of the coming winter, but so soon as the winter finally set in and outdoor work had perforce to be abandoned discontents arose. The Irish element did not get on with the austere Highlanders. The former, writes Macdonell, "displayed their native propensity and prowess on the first night of the year by unmercifully beating some Orkneymen. Too much strong drink was the chief incitement." Others headed a rebellion against Macdonell, and were for a long time in a defiant and obstinate mood.

On July 6, 1812, the little band of colonists left the mouth of the Nelson River for their long journey to Lake Winnipeg—the first body of settlers to traverse the waterways and to cross the portages of the West. Nearly two months were spent on the tedious journey from York Factory, but the 750 miles of waste and dreary lands which rose gradually from the shallow waters of Hudson Bay were at length crossed, and on August 30th the settlers camped on the site of the present city of Winnipeg, at a spot not far distant from the fort of the Hudson's Bay Company. Possibly few, if any, had realized the nature of the fight they were undertaking. Many would probably have turned back had that been possible. But the colonists were solitary and isolated, and escape was impossible. With the exception of the traders in the rival forts and a handful of half-caste *voyageurs* they were alone in the midst of vast solitudes. On September 4th, the Governor, Miles Macdonell, summoned the men of the North-West Company, the free Canadians, and Hudson's Bay Company's employees, and a number of Indians to hear the reading of Lord Selkirk's patent. "Delivery and seizin" were formally taken, the flag was hoisted, and the artillery belonging to the Company and to Lord Selkirk was discharged in a grand salute. Thus was enacted a scene similar to the formal declaration of sovereignty that has taken place in so many British colonies in far distant and dissimilar portions of the world. The Red River Settlement, which began with legal form and due ceremony, was to witness many a stormy day before the right of the colonists to a place in the West was finally conceded.

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CHAPTER VI

The Selkirk Settlement and the North-West Company

The advance party of Lord Selkirk's colonists arrived on the Red River at a period when few provisions were to be had, and though the reception that was accorded them was not entirely hostile it was far from cordial. The traders of the North-West Company were in practical control of the Red River country, and the French half-breeds who were in their employ took their cue from their masters. Whilst at this period no open acts of violence took place, it was nevertheless apparent that obstacles were being purposely placed in the way of the settlers. It was even asserted that the herds of buffalo were driven out of the reach of the colonists in order that the failure of supplies of meat should drive them to extremities. Governor Macdonell, aided by the Hudson's Bay officials, did all he could for the colonists, but in the early days it was largely a matter of helping themselves, and in the rough and tumble of pioneer life under adverse circumstances there is small wonder that the position of the settlers was at times desperate. The long and dreaded winter was again approaching. Governor Macdonell had already settled upon a suitable position for the colony. This had been found about 2 miles below the mouth of the Assiniboine, where John McLeod, who had conducted the party from York Factory, subsequently erected Fort Douglas, so named in honour of the Earl of Selkirk. Here a few men stayed during the long winter to clear the ground for the sowing of wheat and to assist in the erection of huts. The bulk of the colonists were removed to a point 60 miles up the river, where there existed a settlement of Indians and half-breeds, who escorted the weary and despondent settlers, trudging slowly on foot under the protection of the mounted redskins. The settlement of Pembina, where they took up their winter quarters, and to which the colonists returned during several ensuing winters, was situated just beyond the present international boundary. Here buffalo meat was plentiful, and the pioneers were not incommoded by the coming of the second band of colonists, largely Irishmen, who arrived at the settlement late in October. Buildings and a storehouse were erected at Pembina, and when the Governor's quarters were finished on December 27th the place was dignified

with the name of Fort Daer, after one of Lord Selkirk's titles. With the advent of spring the colonists returned to Fort Douglas and attempted the cultivation of their farms. Unfortunately they lacked many of the essential agricultural implements, and the tough and virgin prairie sod did not respond readily to their efforts. In fact, during the summer of 1813 they were reduced to desperate straits. The fish in the Red River were for some reason exceedingly scarce, and meat being practically unobtainable, the colonists were forced to subsist on the "prairie turnip" and such roots and weeds as they could manage to gather, eked out with such of their provisions as still remained. The colonists were placed in such straits that "having had to barter away their clothing for food, many of them were frost-bitten, half-naked, and so discouraged that they resolved never to return to Pembina again under any circumstances." But the land was slowly being got into shape. In the spring of 1814, after they had returned from their winter sojourn at Pembina, they succeeded in sowing a small quantity of wheat.

With the arrival of a third detachment of colonists, who, having spent the winter at Fort Churchill, arrived at Red River late in June, supplied with plenty of grain and potatoes for planting, the colony at length seemed on the high road to success. The newcomers were well satisfied with the country and were elated at the possession of farms of 100 acres apiece. But at this juncture the ill-disguised hostility of the North-West Company and of their protégés the French *Bois-Brûlés*, was fanned into a flame by an act of stupidity on the part of Macdonell, who by proclamation on January 8, 1814, had placed an embargo on the freedom of trade in foodstuffs. In this ill-advised instrument he forbade any traders of "The Honourable Hudson's Bay Company, the North-West Company, or any individual or unconnected traders whatever to take out any provisions, either of flesh, grain, or vegetables, from the country." It was true that provisions were scarce enough and that it was suspected that they were being purposely withheld from the settlement, but Macdonell's action, sound as it may have been in theory, was quite indefensible when it is remembered that he lacked both the men and the means to enforce the terms of his proclamation. Dependent as the colony was for the bulk of its supplies

upon the goodwill of the fur traders, it was unwise to give them any cause for taking decisive action against the settlers. Moreover, Macdonell sent a subordinate to the North-West fort at Brandon House, who seized some 25 tons of dried buffalo meat and brought it into his own fort.

This act and the arrival of the great band of colonists added fuel to the resentment of the North-Westerns, but the actual conflict did not break out until the following year. In the meantime a new governor had been placed in charge of the North-Western fort situated about half a mile from Fort Douglas. This was known as Fort Gibraltar. Duncan Cameron, "a fine dandy of a man," wearing a military uniform, sowed discord wherever he could, ingratiated himself with such settlers as he could win to his side, and prepared for the destruction of the new colony. By representing to the newcomers the hazards of their fight with Nature and the almost certain destruction of their settlements by the Indians, he finally persuaded 140 of the 200 settlers to desert the colony. The offer of free transport to Ontario, and 200 acres of land for every family in the neighbourhood of market towns where they could sell their produce, proved too tempting for the more faint-hearted. In June, 1815, they began their long and weary journey to Eastern Canada, and ten days later the remnant of the colony were given summary notice to quit in a document signed by four North-Westerns. This precious paper bore the words, "all settlers to retire immediately from Red River and no trace of a settlement to remain." Needless to say the agents of the North-West Company had schemed deeply before proceeding to such extremities. Cameron had induced some of the colonists to demand nine small cannon in the Company's possession, and their request being refused, he incited them to break open the storehouse and remove the cannon.¹

On the return of Miles Macdonell, Cameron, armed with a warrant from the

¹ Cameron's letter demanding the surrender of the artillery ran as follows: "3rd April, 1815. As your field-pieces have already been employed to disturb the peace of His Majesty's loyal subjects in this quarter, and even to stop up the King's Highway, I have authorized the settlers to take possession of them and to bring them over here, not with a view to make any hostile use of them, but merely to put them out of harm's way. Therefore I expect that you will not be so wanting to yourselves as to attempt any useless resistance, as no one wishes you or any of your people any harm." This was drawing the teeth of the Hudson's Bay Company!

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authorities in Upper Canada, who were the creatures of the North-West Company, ordered his arrest, and the Hudson's Bay Governor was taken a prisoner to Montreal. He was not, however, brought to trial, the traders, having proceeded thus far, apparently being unwilling to face the decision of their own courts. The surrender of the Governor had been brought about by intimidation. Cameron's right-hand man, Alexander Macdonell, usually known as Yellow Head, having organized an attack upon the settlement, Governor Macdonell, to avoid bloodshed, had been induced to recognize the legal process that had been served upon him.

Pending the forced departure of the Governor, the North-Westerns had been careful to preserve some show of legality in their action. But with the departure of Macdonell all pretence was thrown aside. Resolving to strike swiftly, before the news of their action could reach Lord Selkirk, Cameron determined to oust the colonists from their holdings. Followed by some 70 or 80 armed men, the majority of whom were doubtless half-breed supporters of the North-West Company, Cameron effectually cleared the neighbourhood of those stubborn settlers who still refused to recognize his authority. Unable to withstand the continued attacks of their enemies, the thoroughly disheartened and disorganized colonists—in all some 13 families—who still remained true to their allegiance, left their rude homesteads and sought refuge at the establishment on the Jack River, since known as Norway House, at the northern extremity of Lake Winnipeg. With such of their personal belongings as they were able to take away the last remnants of the Selkirk colony set out for their northern retreat on June 27, 1815—the 125th anniversary of the battle of Killcrankie, which doubtless some of the Highlanders had in mind—and it seemed as if the opponents of free settlement in the North-West had finally triumphed over their enemies.

But fortunately for the Hudson's Bay Company their small fort at the Red River had fallen under the command of a daring young Scot, John McLeod, who determined to uphold the Company's rights at all hazards. Organizing the defences, McLeod and his three or four companions offered a stout resistance to the attack of the frenzied *Bois-Brûlés*, who were already rejoicing over their anticipated victory.

Although the siege of the rude fortress continued for several days and resulted in the death of at least one of the besiegers, McLeod was successful in retaining possession until his assailants finally withdrew in sulkily discomfiture. But the settlement had been blotted out. The Governor's house; the rough shanties of the unfortunate agriculturists, who to the derision of the half-breeds had attempted to till the earth with their rude ploughs and poor agricultural implements; the mill which was to grind their corn; in fact, all the results of their hard and stubborn fight in the wilderness, were razed to the ground, and the colonists, "houseless, wounded, and in extreme distress," left, declaring that they would never return.

But once again Lord Selkirk determined to strike on behalf of the right of free settlement in the West. A lesser patriot would have given in to the forces that were arrayed against him. Selkirk, however, was formed of the stuff that had made his ancestors famous in Scottish history. A further party of colonists was despatched under Robert Semple, a New-Englander, who had travelled through Cape Colony, the West Indies, Brazil, and other parts of the world, and who was now to fall a victim to the deadly feud in the West. The newcomers consisted of about 100 Highlanders, most of whom came from the parish of Kildonan in Sutherlandshire. Captain Semple and his followers on their arrival found that the dispossessed colonists at Norway House had been persuaded to return to their holdings. With the new accession of strength, Semple decided on a more aggressive policy. After spending the winter at Pembina the party again returned to the neighbourhood of Fort Douglas, which had now begun to assume the aspect of a regularly fortified post. The defences had been strengthened, the garrison increased, and a store of provisions accumulated in order to meet possible eventualities. The Governor now decided to strike a blow at the North-Westerns. In April, 1816, the rival Fort Gibraltar was captured, and Duncan Cameron was sent off to York Factory, where he was detained for more than a year. The fort of the North-West Company was dismantled, the stockade taken down, and its stores confiscated for the use of the colony. But the fall of Fort Gibraltar was speedily avenged by the enraged fur traders of Montreal. On the

afternoon of June 19, 1816, a man in the watch-house at Fort Douglas descried an armed party making their way on horse-back across the plains. The half-breeds in the garb of Indian braves, with their faces painted and in all the paraphernalia of redskins on the war-path, advanced rapidly towards the fort, whilst the unfortunate settlers ran for protection behind the stockades. It seemed as if once again their hardly won possessions were to be taken from them. This time, indeed, they deemed themselves fortunate to escape from the threatened danger with their lives. Unfortunately Semple, a brave and impetuous commander, but unversed in the methods of Indian warfare, underrated the strength of his adversaries, and instead of remaining in Fort Douglas, sallied forth with 20 men to meet the enemy. The mounted half-breeds, under the command of Cuthbert Grant, approached in the form of a half circle, their spokesman, François Boucher, advancing towards Semple, who laid hold of his gun. Whether in doing so the gun was accidentally discharged will never be known, but in the words of one of the survivors "almost immediately a general discharge of fire-arms took place, and in a few moments all our people were either killed or wounded." Semple was killed. No quarter was given. In their insensate fury the half-breeds by means of the knife, axe, or ball put a period to the existence of the wounded. This sanguinary encounter took place at Seven Oaks, about 3 miles from Winnipeg, where now stands a monument erected by Lady Selkirk to commemorate the last act in the long drama of the plains.¹ Cuthbert Grant, not satisfied with the slaughter of Governor Semple and 20 of his men, demanded the immediate surrender of Fort Douglas, stating that if it were not given up immediately it would be taken by force and every man, woman, and child put to death. Thus far had the Montreal merchants incited their faithful *Bois-Brûlés* along the path of revenge! Yet again the colonists, hunted, harried, driven to desperation and powerless, were forced to retreat to their haven at Norway House, whilst the victors were celebrating the bloody tragedy of

¹ The inscription is as follows: "Seven Oaks. Erected in 1891 by the Manitoba Historical Society through the generosity of the Countess of Selkirk on the site of Seven Oaks, where fell Governor Robert Semple and twenty of his officers and men, June 19, 1816."

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the plains in riotous dance and song. Pierre Falcon, son of a French Canadian, celebrated the event in a poem which has been versified in English as follows :

Come, listen to this song of truth !
A song of the brave *Bois-Brûlés*,
Who at Frog Plain took three captives,¹
Strangers come to rob our country.

When dismounting there to rest us,
A cry is raised—The English !
They are coming to attack us,
So we hasten forth to meet them.

I looked upon their army,
They are motionless and downcast !
So, as honour would incline us,
We desire with them to parley.

But their leader, moved with anger,
Gives the word to fire upon us ;
And imperiously repeats it,
Rushing on to this destruction.

Having seen us pass his stronghold,
He had thought to strike with terror
The *Bois-Brûlés* ; ah ! mistaken,
Many of his soldiers perish.

But a few escaped the slaughter,
Rushing from the field of battle ;
Oh, to see the English fleeing ;
Oh, the shouts of their pursuers !

Who has sung the song of triumph ?
The good Pierre Falcon had composed it.
That the praise of these *Bois-Brûlés*
Might be evermore recorded.²

CHAPTER VII

Visit of Lord Selkirk to the Red River

At this crisis in the affairs of the colonists, Lord Selkirk, who in the autumn of 1815, had decided to face his enemies on Canadian soil and was wintering at Montreal with his wife, son, and daughter, determined to pay a visit to the settlement for which he was directly responsible. It is probable that the earlier disasters that overwhelmed the settlers, such as the want of adequate supplies and proper agricultural implements, were due to the oversight of his agents, and that Selkirk himself was not then aware of the real conditions of affairs in Assiniboia. But as report after report reached him and the feud with the North-Westerns had flamed into open hostilities, he became convinced that his presence alone could bring tranquillity to the distracted settlement. Moreover, he desired to force the authorities to take some action which would restore law and

¹ Alexander Murray and his wife and Alexander Sutherland.

² From "Lord Selkirk's Colonists," by George Bryce.

order to the Indian territories. But in spite of the prestige of his name and possessions he was practically powerless in the face of his united enemies. Standing alone as he did for the principle of free settlement in the West, he was unable to persuade the ruling authorities in Canada, who were in reality under the influence of the fur traders, to take any decisive steps to put an end to the state of war in the West. Accordingly he began to plan a semi-military expedition. Although he had been sworn in as a magistrate for the Indian territories, and the Government had promised him the protection of a sergeant and six men of the regular army, it was not possible for him to command an armed expedition to the West. But at this juncture there happened to be in Canada two regiments of Swiss mercenaries who had been fighting for the British during the recent war (1812-14) with the United States. Aware that it was necessary to overawe the *Bois-Brûlés* and the servants of the North-West Company by a superior display of force, Selkirk engaged about 100 of these men to go to Assiniboia as military settlers and to render to him as their feudal chieftain such services as were in their power. The men of this force, who were generally known as *De Meurons*, after the name of a well-known Swiss colonel, cannot be regarded as paragons. As a matter of fact they were rough-and-ready soldiers, willing to sell their services to the highest bidder. But as the North-West Company had already engaged some of them to aid in crushing the Red River Colony, Selkirk was fully justified in the action he took. Early in June, 1816, about 100 of these mercenaries with as many sturdy canoe-men started on their long journey to the West. At Sault St. Marie they were met with the crushing news of the murder of Governor Semple and his men and the dispersal of the few remaining colonists. The news made Selkirk more determined than ever to press forward to Fort Douglas. But as it was impossible to reconstruct the settlement upon the approach of winter, he determined to remain at Fort William, the headquarters of the North-West Company, and to collect evidence on oath regarding the disasters on the Red River. Making use of his magisterial powers, he collected a number of depositions and obtained sufficient evidence of the guilt of his enemies. In May, 1817, Selkirk started on his journey from Lake Superior

to the North-West, and in the following month he arrived at Fort Douglas. For the first time he set foot within the immense territories of which he was, nominally at least, the sole proprietor. He was able to appreciate fully and understand the difficulties and dangers which had beset his dependents. Moreover, by his tact and courtesy, behind which, however, was the iron will of a dominant personality, he gained the goodwill of the Indian chieftains, who had never liked the task of ousting the settlers which Cameron and the North-Western officials had sought to foist upon them. In the evidence which had been collected, a Chippewa chief had sworn that he had been promised all the goods at three of the North-West Company's trading posts if he would go with his warriors and declare war against the settlers. Moreover, a party of Cree Indians had been brought to Fort Gibraltar by Cameron for the express purpose of molesting the colonists, and though during their stay several of the settlers' horses had been shot, it was evident that this had been the work of the half-breeds and not of the warriors, who, to their honour, had disdained to make war upon defenceless women and children. Before their departure the Indians had sent the pipe of peace to the colony as a mark of their friendship, and the machinations of Cameron and his associates had in this instance signally failed. By the Indians Selkirk was welcomed as a great chieftain, and was called the Silver Chief. He gained their complete confidence, and was able to enter into a treaty with them.

The arrival of Lord Selkirk infused new hope into the colonists. They were again brought back from their refuge on Lake Winnipeg and reinstated on their homesteads, and from that time the settlement began to prosper and was not again dispersed. After his work of pacification the great pioneer of settlement in Western Canada left Fort Douglas for ever, returning to Europe by way of the Mississippi River, St. Louis, and Washington, and thence northward to Upper Canada. But before he left the settlement, Lieut.-Colonel W. B. Coltman, a Quebec merchant, who had been sent by Sir John Sherbrooke, Governor of Canada, to investigate the dispute between the Hudson's Bay and North-West Companies, arrived with a body-guard of 40 soldiers at the Red River Settlement. His report is a notable and interest-

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ing document. Peace having been restored to Western Canada, the conduct of Lord Selkirk and the North-West Company became the subject of acrimonious legal proceedings in the courts of Upper and Lower Canada; charges and counter-charges became the order of the day. Lord Selkirk was the object of an active legal conspiracy which detained him in Canada during the greater part of the year 1818. He was charged with having stolen 83 muskets at Fort William; with having riotously entered the headquarters of the North-West Company; with resistance to legal warrant, and with a number of petty crimes and misdemeanours. Unfortunately his enemies were powerful, and it is not surprising that in the face of this legal oppression his health broke down and he was obliged to seek peace and repose in the South of France. In October, 1818, he wrote as follows to the Duke of Richmond, who had recently been appointed Governor-General: "To contend alone and unsupported, not only against a powerful association of individuals, but also against all those whose official duty it should have been to arrest them in the prosecution of their crimes, was at the best an arduous task." Lord Selkirk returned to Europe a broken and dying man, and on April 8, 1820, he died at Pau, surrounded by his devoted family. Thus ended the career of one who had given his life to the furtherance of a great cause. Few men have been possessed of higher powers of mind or were more capable of applying them to useful purposes. He stands forth in the pages of Canadian history as the great champion of agricultural settlement in the West. It is possible that under happier circumstances he might have achieved a high position in the councils of his own country, but he preferred to spend his wealth, his talents, and his energies on behalf of a great cause in a far distant country. In this he has achieved lasting renown, and all Canadians must now recognize the disinterested pertinacity he displayed in his fight against the forces of monopoly. Writing of him in 1819, Sir Walter Scott, who had been asked to write a defence of his actions but who was then unable to undertake the task, stated: "I never knew in my life a man of a more generous and disinterested disposition, or one whose talents and perseverance were better qualified to bring great and national schemes to con-

clusion. I have only to regret, in common with his other friends, the impediments that have been thrown in his way by the rapacious avarice of this great Company." With this we must leave Selkirk, only remarking that the action of the North-West Company was not entirely unjustifiable in view of the fact that the vast tract of territory that had been granted to their antagonist was a wedge driven through the path of the fur traders to the West. Their methods were deplorable; but the offence against their interests was great.

CHAPTER VIII

The Amalgamation of the Companies Sir George Simpson

With the death of Lord Selkirk at the comparatively early age of forty-nine, a new era dawned upon Western Canada. For some years it had become apparent that the deadly feud between the rival Companies was leading to their exhaustion. The operations of the two bodies of traders were being conducted in the most expensive manner. Everywhere expenses were being doubled; prices were being forced to an unnatural level; confusion existed in the administration of affairs, and the Indian and half-breed trappers were unable to decide whether their ultimate masters were to be found in Montreal or at the headquarters of the Hudson's Bay Company in London. The great North-West had, in fact, become a land in which it was impossible to dwell without becoming the active partisan of one or other of the great monopolies, in which first one side and then the other gained a temporary ascendancy, and where no man was able to pursue his own avocations free from the fear that he might come into direct conflict with powerful enemies. The state of unrest that prevailed, the unnecessary duplication of officers and trading posts, the keen rivalries between the traders, made it certain that if this state of things were to continue much longer both Companies would be more or less ruined, and their shareholders cease to derive much benefit from the money that had been invested. From the Great Lakes to the far distant shores of the Pacific the rival fur trading establishments frequently stood almost side by side. No sooner was a profitable establishment founded at some point suitable for dealing with the Indian trappers, than another

would be erected in its immediate neighbourhood, and the fur traders would outbid each other for the furs which were offered to them by the hardy hunters of the North-West. But the great advocate of settlement being dead, and his colonists being at last firmly established in the land of contention, it seemed as if the time were ripe for some basis of agreement which would bring peace to the contending traders and once more fill their pockets with welcome dividends. Accordingly Edward Ellice, who had large financial interests in the fur trade and had been one of the chief opponents of the sale of the Red River land to Selkirk, urged that the time had arrived for a policy of reconciliation. The great extravagance in the conduct of trade enabled him to point out that self-interest, apart from every other consideration, dictated the union of the two Companies. Moreover, the Hudson's Bay Company, at least, were being badly served by some of their agents. Alexander Macdonell, who must not be confounded with either Miles Macdonell, the first Governor of the Selkirk Settlement, or with the Alexander Macdonell who had been so closely associated with Duncan Cameron in his attack upon the colonists, had, after the death of Semple, become Governor of the Red River Settlement. Unfortunately, in the words of Sir George Simpson, he was "extremely unpopular, despised, and held in contempt by every person connected with the place; accused of partiality, dishonesty, untruth, and drunkenness—in short, by a disrespect of every moral and elevated feeling." This nabob of the West lined his own pockets and those of his friends at the expense of the Company. Corruption, speculation, and extravagance became the order of the day. The settlers were fleeced of their hard-earned savings, and the traders themselves poured their earnings into the rapacious maw of Macdonell and his associates. So far as the Red River Settlement was concerned the drain upon the resources of the Company was enormous, and when Macdonell left in 1821 it was clear that his administration had been corrupt and his rule oppressive and opposed to the best interests of his employers. Under these circumstances it became less difficult for Ellice to preach his policy of conciliation and retrenchment. He had, moreover, the support of the Imperial authorities, who had become alarmed at the state of affairs in territory that was presumably British

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and for the governance of which they were in the last resort responsible. Lord Bathurst, Secretary for the Colonies from 1812 to 1828, sent for Ellice, and promised to unite the Companies by statute if a satisfactory financial arrangement could be secured. After much discussion the two great monopolies which had so long kept Western Canada in a state of ferment were united on July 2, 1821, and the North-West Company ceased to exist as a separate trading body. The long period of discord and discussion was at an end, and henceforth the progress of the Prairie Provinces was not retarded by open feuds between rival traders, although it was many years before the full tide of prosperity that was to make a granary out of a wilderness set in. It is possible, however, that the best efforts of Ellice and the conciliators might have been fruitless had there not come into prominence at this juncture one of those domineering but tactful personalities who occasionally arise at the right moment to carry affairs to success. The fires of opposition and discontent among the traders were not entirely extinguished when George Simpson, an illegitimate son of the maternal uncle of Thomas Simpson, the famous Arctic explorer, a young man scarcely thirty years of age, was placed in supreme control of the affairs of the now united Companies. In the light of after events it is not difficult to point out the combination of qualities that led to the appointment of so young a man to such a position of responsibility. But contemporaries must have viewed Simpson's appointment with grave misgiving. After serving in the London office of the Company and spending a year in the fur country, he was selected by Andrew Colville, Lord Selkirk's brother-in-law, for the supreme administrative post in the gift of the Company. How could so young and inexperienced a man conciliate the warring elements in the Company and control the wild trappers and traders whose home was the Far West? Simpson, however, proved to be the right man in the right place. The union of the two Companies had transferred the centre of trade from Fort William to that haven of the Selkirk settlers in time of trouble—Norway House; and here the young Governor won golden opinions for the shrewdness and skill with which he carried on his negotiations and the firmness and tact he displayed in his dealing with the North-Western traders.

By a happy combination of the qualities which most appealed to the Montreal merchants, he was able to win their approval and hearty support. Although beneath the velvet glove of friendship there was hidden the mailed fist of discipline and determination, his relations with the settlers, the *Bois-Brûlés*, and the Indians were equally satisfactory. His periodical visits to the Red River Settlement were marked by great cordiality on both sides, and though later, as prosperity increased, the settlers and the half-breeds did not take kindly to the monopoly that was imposed upon them, they always retained the greatest respect and affection for Simpson personally. He was to them the embodiment of undivided power and authority, and brought, at least, the blessings of peace to their distracted settlements.

But whilst Simpson was re-organizing the affairs of the Company, abolishing useless establishments and reducing those which were unremunerative, the affairs of the settlers were not altogether prosperous. Many years of toil and trouble were still to be passed before Western Canada was finally on the highway to success. It almost seemed as if the unfortunate country was to be overwhelmed with all the plagues of Egypt. In 1818, for instance, an incursion of grasshoppers completely destroyed the crops, and once again the unfortunate farmers had to resort to Pembina in search of the buffalo, as had been the case in the earliest years of the settlement. For three years the grasshoppers devastated the country, finally retiring as speedily as they had arrived. Again, the various enterprises that were tried in order to bring some prosperity to the settlers were almost uniformly unsuccessful. The Buffalo Wool Company, which was to supply cloth made of buffalo wool, ended in disaster; the Hayfield Model Farm, owing to mismanagement, was given up after its promoters had lost much of their capital; the Assiniboine Wool Company had a brief and inglorious career; and the Flax and Hemp Company failed for want of a market in which the growers could sell their produce. The great distance from any large centre of population and the fact that the Hudson's Bay Company were able to monopolize all means of transit, were a perpetual stumbling block in the way of every new enterprise.

But in the year 1826 the colonists suffered a disaster that is even yet remembered by

their descendants. The preceding winter had been one of exceptional severity. The wide plains were swept by blizzards and the heavy falls of snow drove the herds of buffalo far away from the settlement in search of food. Many of the colonists' horses were scattered and lost, and no less than 33 lives paid toll to the dread god of winter. Alexander Ross, who had joined the Hudson's Bay Company on its reconstruction in 1821, thus described the memorable winter which was to have such fatal results: "Families here and families there, despairing of life, huddled themselves together for warmth, and in too many cases their shelter proved their grave. At first, the heat of their bodies melted the snow; they became wet, and being without food or fuel, the cold soon penetrated, and in several instances froze the whole into a body of solid ice. Some, again, were found in a state of wild delirium, frantic, mad; while others were picked up, one here, and one there, overcome in their fruitless attempts to reach Pembina—some half-way, some more, some less; one woman with an infant on her back was found within a quarter of a mile of Pembina. This poor creature must have travelled at least 125 miles in three days and nights, till she sunk at last in the too unequal struggle for life." When the long and terrible winter was at last over the anxiety of the colonists was not ended, for it was certain that with the melting of the vast accumulations of snow the river would rise—and perhaps overwhelm the settlement. On May 2nd the river rose 9 feet, and the mass of ice which still kept together as a mighty wedge holding down the waters finally burst asunder. Only those who have witnessed the breaking of the ice on some Northern river, when the long pent-up waters come thundering down between the bursting banks, carrying rocks and trees and mighty masses of ice before them, can realize the scene on the Red River in the month of May, 1826. For 17 days the river continued to rise and to widen into a vast lake, covering the surrounding country. Buildings, furniture, boxes, goods of all descriptions, horses, cattle, agricultural implements—all were swept along by the flood rushing on its journey of devastation to the waters of Lake Winnipeg and so onwards to the storm-tossed seas of Hudson Bay. Twenty days after the floods had begun to subside the settlers were able to return to their homesteads, glad to have

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escaped with their lives, but almost overwhelmed by the completeness of this fresh disaster. Nearly everything was lost and again the pioneers in their long fight against Nature and man had to make a fresh start. They chose a fresh situation for their new farms, and with such stock and provisions as they had been able to save began again their struggle against adversity. But one party, at least, had had enough of the fight. The Swiss settlers who had been introduced by Selkirk departed, certainly to the relief of the remaining colonists whom they had so frequently plundered. On June 24th the De Meurons, to the number of 243, left the settlement for ever, leaving the colonists to work out their own destiny. They had played their part in the history of the colony. Their presence had overawed the disaffected North-Westerners and held in check those elements of discord which might again have overwhelmed the settlement. Now it was no longer requisite. The colony had at last become firmly established, and as time passed new settlers arrived, although never in large numbers, to seek their fortunes from the rich soil of Assiniboia and to found pioneer families in the Far West.

For many years to come the social life of the district was of the roughest description; but times were gradually changing, education was not entirely neglected, religion was duly provided for, and the existence of the colonists was made more tolerable owing to their more frequent intercourse with the outer world. Three classes of settlers—if indeed the two last can be termed settlers at all—made up the small population of the country. The backbone of the settlement was the Highlanders, who had borne the brunt of the battle—determined, grim, stern-featured, and hardened pioneers—who, having broken and tilled the land, had conclusively demonstrated its richness to the scoffing Indians and equally incredulous half-breeds. Then there were the picturesque but disorderly *Bois-Brûlés*, with more than a strain of Indian blood in their composition, daring and fearless trappers and hunters who roamed the prairies in search of game, carrying their lives lightly, braving dangers that would have daunted the most hardy, always on good terms with the redskins to whom they were so near akin. The qualities they inherited from their forbears were just those which appeal most readily to the imagination—relentless and cruel when they considered

their interests seriously threatened, chivalrous and brave to a fault if they were assured that their rights would be respected. Inheriting much of the gaiety of their French forefathers, they made the frozen wilderness ring with their merry songs. The gloomy and tractless forests resounded with their *chanson*. Careless, thoughtless, light-hearted, they lived from hand to mouth, and were happy so long as they could fill their pouches with tobacco or deck their womenfolk with gay ribbons. They were certainly picturesque, and this very attribute inclines us to overlook their shortcomings, which were neither few nor trivial. But once roused they showed much of the brutality of their red ancestors. Then the garb of civilization was flung aside. They danced the war-dance with demoniacal fury, naked and unashamed, daubed with the paint of battle, garlanded with the feathers of war. In a word they became savages. The instincts of the maternal ancestors proved stronger than the French strain in their blood and they became the playthings of leaders whose ulterior motives would not always bear the strictest investigation. The third element was composed of the English half-breeds, the descendants of the employees of the Hudson's Bay and North-West Companies, men almost entirely of Scottish descent, shrewd, cunning, calculating, and moody; but more reliable, less volatile, less easily roused than the French half-breeds. As time went on they became a stable and important section of the community—still usually trappers and hunters, although some of them settled down and farmed, but showing sterner qualities than those of the *Bois-Brûlés*. Such, then, was the population of the Red River Settlement, which soon contained 1,500 souls. By 1849 the numbers were over 5,000, and in 1856 the census figures revealed 6,523 inhabitants in the infant colony.

Fortunately the colonists were not entirely shut off from European culture. Packets of books arrived in the ships that came from England, and some of the forts scattered over the great North-West had a considerable store of books. Miss Agnes Deans Cameron, who in 1909 journeyed up the Mackenzie to its mouth in the Arctic Seas, relates how she discovered at Fort Simpson an old library where the books, "broken-backed and disembowelled, lie underfoot, and none so poor to do them reverence." They were brought to this

northern settlement many decades ago. "Here," continues Miss Cameron, "is a first edition of the *Spectator*, copies of Virgil, and all Voltaire and Corneille in the original." We may be sure that such books as found their way to the Red River were read and re-read many a time during the long winters and formed a mental tonic for the colonists in the times of their troubles. Opportunities for literary recreation were small, but were fully utilized at the settlement. In 1822 Peter Fidler bequeathed his collection of about 500 books to be used as a circulating library on the Red River, and directed that the residue of his estate, after his children and Indian wife had been provided for, should be placed in the public funds and the interest left to accumulate for the benefit of his posterity until August 16, 1969, this being the 200th anniversary of his birth. His descendants and some of his books survive, but all trace of the estate in public funds has long since disappeared. The Rev. John West, the first Anglican clergyman, arrived in the Colony in 1820, and assisted in starting a school, whilst the Catholics had similar schools on the banks of the Red and Assiniboine Rivers, and at a later period the Presbyterian community also supported their own school. It is thus evident that the settlers, isolated as they were in the midst of a great continent, with immense unpeopled wastes to the north, south, east, and west, were still in touch with civilization. Lord Selkirk had promised to look after their spiritual and educational needs, and after his death the trustees of his estate carried on the work which he had so worthily commenced.

CHAPTER IX

The Weakening of the Hudson's Bay Company's Authority

The next 40 years in the history of Western Canada were comparatively uneventful. The stirring events that had marked the foundation of an agricultural colony on the Red River left a deep impression on the minds of the settlers. They were aware, however, that the prosperity of the colony could only be brought about by a period of peace and tranquillity. In the past they had been crushed between the upper and nether millstones of the Hudson's Bay and North-West Companies, and although the sturdy independence of

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character that distinguished most of the early pioneers had not been destroyed by the misfortunes through which they had passed, the majority were well content to carry on their avocations without agitating against the growing monopoly of the Hudson's Bay Company. Doubtless many of them remembered that they had come from a country of free representative institutions; but they had left before the growing forces of democracy had compelled the reform of Parliament, and they were, moreover, of that class who generally looked to the guidance of some territorial chieftain rather than to the direction of a Parliamentary demagogue. It is not surprising, therefore, that the colonists had regarded Lord Selkirk as their ruler and patron, and that they also looked upon the autocratic Simpson as their natural overlord. Nor is it to be wondered at that they took little interest in abstract questions of government. Their stern fight to obtain a competence in the wilderness engaged their attention, and no questions of representative assemblies or any form of self-government arose to disturb the now placid course of their existence. Not until economic causes directed their attention to the power of the oligarchy by whom they were ruled did they begin to question the rights of those who had been set in authority over them. Although after the death of Lord Selkirk his executors were still the nominal rulers of the settlement, its management in reality was vested in the officials of the Hudson's Bay Company. The settlers, although deriving their titles from Lord Selkirk and his successors, were subservient to the local governor of the Company, who represented British law in the country. It was not until the year 1835 that Lord Selkirk's family surrendered their territorial claims and the Hudson's Bay Company assumed complete control of the territory. It had, however, become desirable that there should be some less patriarchal form of government than had hitherto been the case, and accordingly a council was appointed under the presidency of Sir George Simpson to manage the affairs of Assiniboia. But as the Company were careful to appoint only their paid officials or those who were directly interested in preserving their monopoly, the Council of Assiniboia was in no sense really representative of the colonists. Amongst the

14 councillors who were nominated to assist the Governor in his administration were the Governor of the Company, Alexander Christie; the Chaplain and his assistant, the Roman Catholic Bishop, the Warden of the Plains, the Coroner, the Sheriff, the Medical Adviser, and a former Chief Factor. It was evident, therefore, that the Hudson's Bay Company still retained its paramount authority. But a step forward had been made. Limited as were the powers of the Council, it represented a distinct advance in constitutional practice; and the Council of Assiniboia was the forerunner of responsible government in this portion of Canada. The Council had, however, no executive powers, and when it finally came into conflict with that section of the populace which desired a more complete control of its own affairs it failed to retain the respect of the inhabitants, and permitted a mob to set the authorities at defiance and to usher in a period of disorder that was only ended by the armed intervention of the Crown.

In the year 1839 Adam Thom was appointed the first Recorder of Rupert's Land, in order that the majesty of the law might be vindicated in the person of a resident judge. His arrival caused much agitation and comment. As the paid representative of the Company, drawing from their coffers the then princely salary of £700 per annum, the colonists felt that the new judge was not likely to take an impartial view of any case in which his own interests or those of the Company were directly concerned. In this they probably did the Recorder an injustice, but their attitude was perfectly natural and demonstrated that they were beginning to realize that the time was arriving when Company rule should give place to the direct control of the Crown. The Recorder himself was a man of domineering and aggressive personality. He had been, moreover, a determined opponent of the French point of view during the troubles in Upper and Lower Canada which had ushered in the first years of the reign of Queen Victoria, and he was not, therefore, exactly a *persona grata* to the *Bois-Brûlés* and those of French sympathies. But he was a protégé of Sir George Simpson, with whose policy he was in entire accord. Simpson and Thom thoroughly understood one another, and

it is even stated that the more literary Recorder wrote a considerable proportion of the former's well-known account of his voyage round the world—a proceeding which subsequently caused the Governor some embarrassment when he was called upon to give evidence before a Committee of the House of Commons and found that his spoken opinions did not entirely coincide with those expressed in his book. Thom had a difficult task to perform and his path was not entirely strewn with roses. This was especially the case so soon as the Hudson's Bay Company, through the medium of their Council, decided to enforce their monopoly of trade by suppressing all free traders.

As we have seen, the Red River Settlement was practically cut off from the rest of the world. Its commerce was carried on under the greatest difficulties of transportation. The immense distances that had to be traversed before any kind of goods could be introduced or exported placed the strongest weapon in the hands of monopoly, for those who had to traverse the waterways and numerous portages were compelled to pass the forts and establishments of the Company. There were two main routes by which goods were brought into the country. The first of these was naturally by way of York Factory and thence by means of the wearisome journey up the Nelson River and down the whole length of Lake Winnipeg. By this route the great boats of the Hudson's Bay Company, each manned by a dozen men, made their way to the settlement, the *voyageurs* lightening the heavy task of proceeding against stream by their songs and choruses. The second route lay over the ill-defined boundary of the United States into American territory by way of St. Paul or St. Cloud, in the present State of Minnesota. Here goods were carried in primitive and lumbering carts over the wide prairies, where the traders were sometimes attacked by the Indian tribes through whose territories they were forced to pass. The Company, finding their interests threatened by the operations of those who preferred to trade for themselves, sought to impose a duty of 20 per cent. on all imports, exempting from taxation those settlers who took no part in the fur trade; and by a proclamation issued in 1844 they stated that before they would carry the goods of any settler

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or resident in Western Canada they would require a declaration that no traffic was carried on in furs, and would, moreover, reserve to themselves the right of examining his correspondence.¹ The effect of such a proclamation upon the hunting and trapping community was soon apparent. Discontent and opposition were stirred up amongst the half-breeds of both English and French descent, who naturally resented such high-handed and inquisitorial methods. The Company, moreover, imposed heavy freights on goods going to England by way of Hudson Bay, and even refused to carry those of any agitator who had made himself obnoxious to the ruling oligarchy. Although the discontent was substantial it was more or less kept beneath the surface owing to the fact that in 1846 a regiment of regulars, the 6th Royal Regiment of Foot, with artillery and engineers, had been despatched to the settlement—not to overawe the malcontents, but because at this time the long dispute regarding the Oregon Territory and the boundaries of Canada seemed likely to lead to trouble with the United States. The British Government, therefore, prepared for possible hostilities, and Colonel Crofton, in command of the troops, took the place of Alexander Christie as Governor of the colony. Fortunately his administration was wise and tactful, and the settlers were also quick to recognize that they were sure to reap a pecuniary advantage from the presence of British troops. But so soon as the regulars were removed and a number of military settlers had been introduced by the Company the questions that had been raised by Alexander Isbister, an able half-breed lawyer who had pressed the cause of the Indians and half-breeds upon the attention of the British Government in a petition setting forth their grievances, came prominently to the front. The unrest in Rupert's Land came to a head when William Sayer, one of the *Bois-Brûlés* who had been charged with buying goods with which to go on a trading expedition to Lake Manitoba, was brought to trial. Under the leadership of Louis Riel, the fiery and impetuous father of the man who subsequently caused so much trouble in the West, the

¹ It has even been asserted that the local governor at Fort Garry at one time issued an order that all letters leaving the settlement should be opened for his inspection. This was patriarchal government with a vengeance.

French half-breeds, to the number of 500, made a determined attack upon the courthouse. Although the court, under Judge Thom, gave a verdict of guilty, the mob released the prisoner and carried him off to the French settlement at St. Boniface. The authority of the court was set at defiance, and from this time a period of lawlessness indicated the weakening of the Hudson's Bay Company's administration of the Red River Colony and showed the determination of the colonists to enjoy complete freedom of trade.

CHAPTER X

The Indian Tribes

Previous to the advent of the white man, the Western plains were peopled by the teeming hordes of buffalo and by scattered and migratory tribes of Indians who were allied in loose confederacies. It is difficult to get any clear and concise idea of the history of these wandering and warring tribes. They were confined to no precise territory, but pressed onwards to the most desirable hunting-grounds as their enemies became weakened by war or decimated by disease, or were driven towards the inhospitable and barren lands of the north, or to the "bad lands" of the south-west when they themselves became less powerful. The boundaries of their hunting-grounds were thus constantly changing, and this fact alone accounts for the difficulty of identifying some of the tribes that are mentioned by early travellers. It is improbable that the Indians of Western Canada were ever very numerous. They were scattered communities roaming over vast tracts of territory and living a purely nomad existence. The buffalo supplied their clothes, their houses, their bridles, their boats, their weapons, and their food, and, in fact, everything that made life possible for these wild children of the plains. From the hide they made their tents and garments and fashioned the frail canoes in which they ventured upon the mighty waterways. Its flesh, either eaten alone or pounded down and mixed with fat into "pemmican," supplied them with their staple article of food. So much were they dependent upon the bison¹ for their support that the ruthless and savage destruction of these animals which went on unchecked

¹ Although these animals are generally termed buffalo their proper name is bison.

by the American and Dominion Governments for so many years was little short of a crime against humanity. The deeds of Buffalo Bill and his associates, who slaughtered these noble beasts of the prairie in order to provide meat for the great army of labourers working on the Kansas Railway, and the deadly destruction wrought by the hunters, who frequently destroyed the buffaloes out of wanton "sport," have left a deep stain upon the annals of Western America. It may be truly said that the prairies have been fructified by the blood of countless thousands of these animals shot down and left to rot on the spreading plains. American citizens regarded the Indian as an anomaly and a strange survival from the past who was doomed to disappearance before the advance of European civilization, and the methods of some Yankee sportsmen were carried across the borders into Canada by unscrupulous traders, who supplied the Indians with the insidious "fire-water" that was gradually undermining the race, and carried on their wanton destruction of the buffalo on the Canadian prairies. Much must, of course, be forgiven to the authorities owing to the disturbed state of the country and the absence of adequate means of enforcing law and order in the vast spaces of the West. But the spirit lurking behind this enormous sacrifice of animal life was revealed in a significant remark made to Sir William Butler, when the latter was on his way to the Red River to join Wolseley's force in their operations against the half-breeds. "Kill every buffalo you see," said a Yankee colonel, "for every buffalo dead is an Indian gone." Although the destruction of the buffalo had gone on ever since the coming of the white man, it only reached its climax in the early eighties, when the construction of the Canadian Pacific Railway sealed their doom by throwing a road across their path, along which hunters and sportsmen hurried to reap their harvest of flesh and blood. Little by little the Indians became dispossessed of their means of existence, and with the disappearance of the bison they sank into a state of penury and want. But for the action of the Canadian Government they, too, in all probability would have disappeared from the plains.

In the maps of Western Canada drawn in the early years of last century many names of Indian tribes that now sound strangely in our ears are to be found scattered over the



1. HEROIC DEFENCE OF FORT PITT BY INSPECTOR DICKENS, APRIL 22, 1885.
 2. NORTH-WEST VIEW OF PRINCE OF WALES FORT, HUDSON BAY. 3. THE BEAR DANCE.
 4. BUFFALO HUNT. 5. THE BUFFALO DANCE.

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partly explored wastes. In the great space between the south-western coasts of Hudson Bay and Lake Winnipeg are shown the Nena Wewhok Indians, and in the country west of Lake Winnipeg the Stone Indians then reigned supreme, whilst further west were the Blackfoot Indians, and in the barren country to the north the unfortunate Chippewas, who had been driven farther and farther from the most desirable hunting-grounds, were still carrying on their fight with their more fortunate enemies. In the far north-west were shown the Beaver, Strongbow, Mountain, Nathana, and Copper Indians, whilst about the mouth of the Mackenzie River was a tribe bearing the significant designation of Quarrellers. Roughly, it may be said that Western Canada was divided amongst four great tribes whose names occur again and again in the works of the early travellers. Of these the Chippewas dwelt near the Lake of the Woods, and roamed over the great country between that district and the mouth of the Churchill River. The Chippewas, who are variously known as the Ojibbewas, the Saultaux, and the Bungee Indians, had migrated many years before from Ontario and Quebec and were an off-shoot of the great Algonquin confederacy. Further to the west were the Crees, also known as the Killistine, Knistineaux, or Kristineaux Indians, who were one of the largest branches of the Algonquins, and akin to all the Indians of Eastern Canada except to the Hurons. They were known as Plain, Wood, and Swampy Crees, according to the nature of the district in which they were settled. In the middle plains were the Assiniboines, or Stonies, with whom the Selkirk settlers mostly had to deal. The Stone Indians allied themselves to the Crees, but were in reality a kindred tribe to the Sioux, or Dakotas, who covered the territories now forming the two Dakotas and Minnesota in the United States. At the present time remnants of these tribes are only to be met with in the Far North-West. Beyond the Stone Indians was the great Blackfoot confederacy inhabiting the Western prairies as far as the slopes of the Rocky Mountains. The Blackfoot Indians were probably more civilized than the other tribes. In the eighteenth century they were the only tribe of Indians who were known to ride horses, and in 1742 rumours of these *gens de chevaux* reached the eastern colonies, whilst ten years later Anthony Hendry wrote of the equestrian

Indians who were evidently the same confederacy. At a later period, however, nearly all the Indians were mounted, and their superiority in this respect did not stand the Blackfeet in good stead so soon as the Crees were able to get firearms from their European neighbours. Finally the Athapaskan or Chippewyan Indians, also known as the Denné Indians, were formerly a powerful group of redskins, for the great Athapaskan stock extended over the whole of North America, in scattered bands through Oregon and California into northern Mexico, and included the Umpquas, Apaches, and other well-known tribes. An off-shoot known as the Sarsis subsequently joined the Blackfoot confederacy. The few Sioux who at a later period entered the Dominion were refugees from the United States. Most of these great tribes, although closely allied in origin and having similar manners and customs, spoke different languages and dialects. It has been estimated that there are nearly 1,300 different American languages and dialects.

The relations of the white settlers with the Indian tribes of Western Canada were in general friendly. The long and stubborn fights with the redskins that make the history of Eastern Canada and the Western United States vivid and picturesque were not repeated on the Canadian plains. Isolated fights and massacres did indeed take place, but there is no tale of a war to the death between the white man and the redskins. It was to the interest of both the Hudson's Bay Company and the North-West fur traders to maintain amicable relations with those who brought such riches to the little forts and settlements in the West. When agricultural settlers arrived in the country and started their farming operations to the wonder of the Indians it became necessary to extinguish their title to the land of their ancestors. Accordingly in the year 1817 Lord Selkirk entered into the first of a series of treaties with the Indians inhabiting the large tract of land adjacent to the Red and Assiniboine Rivers. Five chiefs surrendered to their sovereign Lord King George III their titles to this land in return for 100 lb. of good tobacco to be paid to each nation annually. This treaty was signed by the chiefs, who are described as of the Chippewa, or Saultaux, and Killistine, or Cree, Indians, who affixed

thereto drawings of the animals after which they were named. It is interesting to recall the names of these chiefs and their French equivalents given in the treaty. They were Mache Wheseab, or *Le Sonnant*, Mechkaddewikonaie, or *La robe noire*, Kayajicskebinoa, or *L'homme noir*, Quickidoat, or *Le premier*, and Pegouris. It was some years before another treaty was arranged with the Indians, for no further steps were taken to extinguish their claims until the unrest that had spread over the great West owing to the Dominion Government having assumed control of the territories of the Hudson's Bay Company compelled the authorities to make a fresh arrangement with the remaining Indian tribes. Several treaties were then arranged with the Indians between the Great Lakes and the Rocky Mountains, by which they surrendered all their rights and title to the lands covered by the treaties in return for permission to hunt over the ceded territory and to fish in its many waterways. They were, in addition, promised a perpetual payment of 5 dollars per head for each man, woman, and child, a sum of 25 dollars for each chief and 15 dollars for each of his councillors or headmen. The treaties provided for the establishment of schools for the instruction of Indian children, prohibited the sale of spirits to the natives, and set apart "reserves" for the exclusive use of the Indians. By the seven later treaties about 32,000 redskins resigned their territorial possessions and came under the direct management of the Dominion Government. Previous to the extension of the boundaries in 1912 there were 8,000 Indians in Manitoba, about the same number in Saskatchewan, and about 6,000 in Alberta, whilst in the North-Western districts there were another 20,000 under the direct control of the Government. It has been estimated that over 1,500 treaties have been made with the Indians under which their lands have been transferred to the Crown in the several provinces of Canada. In dealing with these degenerate descendants of a once mighty and noble race the Dominion Government has relied largely upon the help of the missionaries who have done such noble work in the great North-West. The missionaries have instructed them in the benefits of European civilization. But the Bible and the plough have proved

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poor substitutes—at least from a utilitarian point of view—for the buffalo of the prairie.

CHAPTER XI

The Transfer of Territory

Meanwhile events in Western Canada were rapidly hastening to a climax. The position of affairs was altogether unsatisfactory. In the Red River Settlement matters were practically at a deadlock. The Hudson's Bay authorities were openly defied by the inhabitants, the administration of justice became a farce, it was frequently impossible to bring offenders to trial, and when they were tried and sentenced it not seldom happened that prisoners were forcibly rescued from gaol and remained at large defying the magistrates. The absence of any means of enforcing the judgments of the court owing to the want of an efficient police force, and the unpleasant notoriety that was gradually attaching itself to the doings of the Company, concentrated attention on the affairs of the West. The privileges of the Hudson's Bay Company were felt to be an anachronism in the middle of the nineteenth century. So long as they had to deal with scattered Indian communities little notice had been taken of their proceedings, but with the constant influx of new settlers into the North-West, it was felt that the days of unlimited privilege had passed, and that some decisive step should be taken in order to release the colonists from the real disadvantages they were under with regard to trade and commerce. Canada was passing through a period of transition. In the eastern provinces the movement in favour of confederation was daily gaining fresh adherents amongst those who recognized that the future greatness of Canada could only be secured by some permanent form of union between the separate provinces and territories that stretched between the Atlantic and the Pacific. The statesmen of Ontario and Quebec were beginning to perceive that the true lines of progress lay across the great Western prairie lands and that the chief stumbling blocks in the way of a great and undivided Canadian Dominion were the privileges of the great trading Company which exercised control over Rupert's Land and the distant West. But most

Canadians were far from realizing the true value of the neglected prairie lands lying between the Lakes and the Rocky Mountains. Even so able a statesman as Sir John Macdonald, the Premier of the first Dominion Cabinet, looked upon the prairie country as likely to be an expense rather than an asset to the growing nation. "We have occupied land enough," he said, "to absorb the immigration for many years. The opening up of the Saskatchewan would do to Canada what the prairie lands of Illinois are doing now—drain away our youth and strength." In spite of the favourable reports which now and again reached the outer world, the great majority of Canadians regarded Western Canada as a vast country suitable only for the hunter and the trapper—embarrassing in its size and an economic drag upon the coach of State. Western extension was all very well as a political experiment, but the territory itself could never be anything more than an economic white elephant. But political necessity was stronger than economic theory. The rapid march of events forced the hands of the more timid Canadian statesmen.

George Brown, the great exponent of responsible government in Canada, was already preaching the desirability of a United Canada, and pointing out the impossibility of reaching finality unless the territories of the Hudson's Bay Company were brought under the administration of a confederated Canadian Government. Over and over again he pointed out that the same power which was acting as merchant and carrier, appointing Governors and administering the law, could not permanently retain these opposing privileges before the rising tide of civilization. Moreover, Brown was opposed to the claims of the French-Canadian party, who regarded Western Canada as their peculiar stronghold and were unwilling that there should be any encroachment upon the lands of the French half-breeds who formed so strong a section of the population of Rupert's Land. The position of the Hudson's Bay Company was, however, untenable. Whilst the great prairie districts of Canada were theirs by virtue of the charter granted by King Charles II, against the validity of which it was improbable that the Privy Council would decide, the lands beyond the Rocky Mountains in the present province of

British Columbia were only leased to them under an arrangement which had to be renewed every 21 years. This licence expired in 1859, and when the Company applied for its renewal in 1857 it became evident that the opponents of Company rule were determined to fight for the westward extension of Canadian territory. Accordingly, Chief Justice William Draper was sent to England at the request of Sir Henry Labouchere, Secretary of State for the Colonies, in order to place the Canadian case before the Committee of the House of Commons which had been appointed to inquire into the affairs of the Company. He ably supported their cause before this celebrated Committee by insisting that Canada should be extended as far as the Rocky Mountains, and that the Canadian Government should be permitted to build roads over the vast Western plains in order to facilitate the settlement of the countries. But although the Committee decided that it was "important to meet the just and reasonable wishes of Canada to assume such territory as may be useful for settlement; that the districts of the Red River and the Saskatchewan seem the most available; and that for the order and good government of the country" the Imperial authorities should sanction its administration by the Canadian Government; nothing was done to extinguish the rights of the Company until November, 1869, when a deed of surrender was duly signed, under which the Hudson's Bay Company transferred its administrative function to the Canadian Government. This step had been greatly facilitated by the Confederation of Canada which had taken place two years previously, and by the probability that British Columbia would enter the new confederation. It at once became apparent that it was politically impossible for this great extent of territory to remain as a wedge between the two portions of the Dominion; a barrier political and economic across the path to the Pacific could no longer be tolerated. On this occasion the Company bowed to the inevitable with a fairly good grace. Under Lord Granville, who now showed more tact and initiative than he is usually credited with, a settlement of the difficulties was finally negotiated; the resulting agreement was accepted by the Canadian Parliament in June, 1869,

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and in November of the same year the momentous document that was to change the course of Western history was signed. In consideration of the sum of £300,000 the Hudson's Bay Company surrendered its territorial interests to the Crown, and the Dominion of Canada became possessed of the fertile lands of the West.

But the immediate result of the transfer of territory was further troubles in Rupert's Land. The French half-breeds saw in the new arrangement the probable termination of their cherished dream of a French-speaking nation in the West, and the Indians altogether failed to understand the meaning of the new relations that were being forced upon them.

CHAPTER XII

The Riel Rebellion

During these proceedings the Canadian Government had been making preparations for taking over the North-West from the Hudson's Bay Company. One of their first steps was to organize a band of surveyors under Colonel John Dennis, who, during the summer of 1869, were sent to Western Canada to survey certain lands which it was thought desirable to throw open for settlement. Unfortunately at this juncture, when it was of the utmost importance that the inhabitants should be given no cause for complaint, Dennis and his associates acted with little tact, carrying out their measurements across the lands of the half-breeds, frequently without explaining the nature of the work upon which they were engaged, and creating the impression that it was the intention of the Canadian Government to dispossess the *Bois-Brûlés* of the lands they occupied. Amongst the ignorant and half-educated, small causes occasionally lead to great results. It was so in the present instance, for the French half-breeds, restless during the protracted negotiations that had been taking place and fearful that their supremacy was about to become a thing of the past, as indeed it was, were easily organized into active rebellion by an unscrupulous leader who now stepped to the front. Active discontent was, moreover, being stirred up by interested Americans and the not inactive Fenians, who scented an excellent opportunity for embarrassing the Canadian Government and for furthering the in-

sidious advance of their countrymen across the International boundary. The half-breeds also felt that the upholding of French-Canadian nationalism rested in their hands, and the not too scrupulous influence of two or three Catholic priests who were peculiarly identified with the nationalistic movement was brought into the scales against a recognition of the new order of things. Although it is not possible to adopt Lord Wolseley's view that the French-speaking inhabitants were "ruled over by a clever, cunning, unscrupulous bishop," the fact that the half-breeds were of one religion and drew their political views from their religious leaders naturally united them in their opposition to the Dominion Government. It was peculiarly unfortunate that at this juncture Archbishop Taché, who had been one of the most active pioneers of the faith in the Far West, and whose influence over the half-breeds would probably have checked the excesses that were afterwards committed, was absent in Rome and was unable to aid in a settlement of the dispute. The circumstances were therefore entirely favourable for the machinations of Louis Riel and his companions. Looking back at these events it seems incredible that Riel could have imagined that there was any chance for the political theories he advocated. A man of natural talent, he was not devoid of ordinary intelligence, and could not but be aware that sooner or later the government he was prepared to organize would fall asunder like a pack of cards. It is more than probable that this self-appointed leader was a man of inordinate vanity who was prepared to play his little part on the stage of national events, strutting and fulminating like the swashbuckling hero he really was in order to gain a niche in the Valhalla of meretricious patriots. Although it is generally believed that he was of mixed French and Indian descent—an illusion he took care to cultivate and which was heightened by his appearance—Riel was, as a matter of fact, of pure blood, although he had many half-breed relations. His restless and ambitious spirit had at an earlier period of his career led him into petty dishonesties, and later, when he blossomed into a full-blown demagogue and agitator, he was not above treachery and bribery in order to further his aims. Gathering to his side a considerable band of followers, this modern Napoleon seized the highway at St. Noebert,

erected barriers, and on November 2, 1869, took possession of Fort Garry,¹ which was then under the charge of William McTavish, who was either too ill or too incompetent to act with decision at this critical juncture. Thus began the Red River Rebellion, which was to have such momentous results.

In the meantime the Hon. William McDougall, who had been appointed Lieutenant-Governor of Rupert's Land, had been sent to the West with instructions to assume control on the day on which the transfer of territory was proclaimed. The new Governor has been described as a "cold-blooded man, destitute of geniality and of sympathy in dealing with men." Certainly he was destitute of tact, for in spite of the fact that he was unable to proceed further than Pembina, he issued, apparently on his own authority, a premature Proclamation formally annexing Rupert's Land and the North-West Territory to the Dominion. Had he been able to follow this by decisive action his hasty proceedings might have been justified, but the Governor was without even the semblance of a force to carry out his orders, and he not only contrived to humiliate himself, but acted against the advice of the Canadian Ministry, who had informed him that it would be most unwise to assume any direct responsibility until the Company were able to assure the new government peaceable occupation of these territories. No excuse was to be given to the inhabitants to form a *de facto* government, "which might be very convenient for the United States." By this assumption of an authority that he did not possess McDougall only made matters worse. Riel and his associates merely laughed at the premature and unauthorized proclamation and proceeded to organize and consolidate their defence. The French leader had summoned a Convention at which he formulated a "Bill of Rights," and

¹ There is considerable confusion as to Fort Garry, which figures so frequently in the annals of the North-West. The original Fort Garry—so named after Nicholas Garry, who was Deputy-Governor of the Hudson's Bay Company 1822-35—was built in 1821 after the union of the two Companies. It was known as Upper Fort Garry, to distinguish it from Lower Fort Garry, some 19 miles down the river from the forks, which was erected in 1831. In 1835, on higher ground than the original Fort Garry, was built the establishment that so long continued to be the centre of business and government and was the nucleus of the present city of Winnipeg. This post, also called Fort Garry, was sold in the year 1882, when it was demolished, with the exception of the front gate, which is now owned by the City of Winnipeg, and forms so historic and interesting a feature of the prairie capital.

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in spite of the opposition of the British settlers Riel issued this precious document, and on December 7, 1869, he broke his truce with certain of the armed inhabitants and took a number of them prisoners. On Christmas Day, the figure-head President, John Bruce, resigned, and Louis Riel assumed the direction of the Provisional Government. Two Commissioners, a French-Canadian missionary named Thibault, and Colonel de Salaberry, who had been sent in hot haste by the Canadian Ministry were thrust aside, and on December 27th, Mr. Donald Smith, later known as Lord Strathcona, arrived as Commissioner and commenced negotiations with the rebels. A meeting was called for January 19th at which Mr. Smith read a letter from the Governor-General in which it was announced that the Imperial Government were prepared to see that "perfect good faith would be kept with the inhabitants of the Red River and the North-West," and at a later meeting invited the Convention to send delegates to meet the Government at Ottawa. For a time it seemed that matters might right themselves, but an ill-judged attempt on the part of some of the settlers to effect the release of certain prisoners apparently convinced Riel that the time had arrived for him to make some demonstration of his power. Seizing four of his opponents, he had them sentenced to death, and in the case of one of them, Thomas Scott, an ardent Orangeman from Ontario, who had made himself particularly obnoxious to the incensed Dictator, the death sentence was actually carried into effect. This arbitrary and high-handed proceeding sealed the fate of the Provisional Government. When the news reached Eastern Canada intense indignation was aroused throughout the Dominion. The Canadian Government felt that it was no longer possible to temporize with the insurgents—the fate not only of the Ministry, but of British prestige in the West depended upon immediate and decisive action. The loud and angry demands for the despatch of a military expedition led to the sending of a brigade of troops—British and Canadian—to Fort Garry under the command of Colonel Garnet Wolseley. The first battalion of the Royal Rifles formed the Imperial quota, whilst two battalions of Ontario Militia and Quebec Militia were supplied by the Canadian Government. Owing to the great distance that had to

be traversed and the absence of all means of quick communication this was no small undertaking; for in the words of Lord Wolseley, "the troops, upon reaching their destination, would be as far from a telegraph station as Cæsar was from Rome when he jumped ashore in Kent with his legions a little before the Christian era. One peculiarity of our undertaking," continued Lord Wolseley, "struck me forcibly at the time: that in an age justly celebrated for its inventions and scientific progress, such a military expedition should start unaided in any fashion by either the steam engine or the electric telegraph." The force proceeded by way of the Lakes and the route from Fort William to Lake Winnipeg—recently traversed by Simon J. Dawson—and Lord Wolseley arrived at Fort Garry on August 24, 1870, to find that Riel with his lieutenants, Lepine and O'Donoghue, had fled across the border. The expedition had not, however, been allowed to proceed without interruption. The Fenians in the United States threatened an invasion of Lower Canada and the United States Government had refused to allow soldiers or munitions of war to pass along Sault Canal. But the threatened opposition of the half-breeds—which in reality was the only event to be feared—collapsed, and Lord Wolseley gained a bloodless victory and hoisted the Union Jack in place of the flag of the Provisional Government,¹ to the joy of the greater part of the inhabitants of the disturbed districts. Thus ended the abortive rebellion on the Red River. Riel, its chief instigator, had indeed escaped and was an outlaw, but the swashbuckler of the West was fated at a later period to pay on a good hempen rope the penalty of his misdeeds.

CHAPTER XIII

The Province of Manitoba—The North-West Police—The Saskatchewan Rebellion

Whilst Lord Wolseley and his troops were hurrying to the West the Canadian Parliament were busy considering the best means of administering the new territories, and fortunately they arrived at a right decision. The Canadian Parliament were not fully alive to the desirability

¹ The flag of the Provisional Government had borne a fleur-de-lys, in compliment to the French inhabitants, and a number of shamrocks.

of sanctioning some form of popular government in the disturbed districts. Although they were not sanguine that their proposals would meet the wishes of the French half-breeds, who were, indeed, little concerned with abstract questions of government so long as they were able to retain their predominant position in Western Canada, they felt instinctively that nothing short of full autonomy would meet the changing conditions. Anticipating in some measure the rapid growth of Western Canada, and recognizing that the old fur trapping days were quickly passing away and that before long the country might support a thriving agricultural population, the Ministry introduced a Bill providing for the establishment of a Provincial instead of a Territorial Government, in order that the new province that was to be carved out of the Western prairies might enter the Confederation as a full-fledged member of the Dominion. The Manitoba Act, which was passed in 1870, provided for the formation of 24 electoral districts, to each of which was allotted a representative in the Provincial Legislative Assembly; and following the precedent of Quebec instead of Ontario, probably owing to the presence of a large Catholic element in the new province, a Legislative Council or Upper House was also established. The latter, however, after a brief and inglorious career, having ceased to be of any real value in the administration of the country, was abolished by a local Act in 1876. The area of the new province was 13,500 square miles, but in 1880 the boundaries were extended, when the area became 73,956 square miles, at which figure it remained until the extension of the boundary northwards in the year 1912. At the time of the admission of Manitoba into the Dominion there was a population of about 12,000 in the province, consisting of about 2,000 pure whites, about 5,000 English half-breeds, and about the same number of French half-breeds. The little community which thus had the privileges of self-government thrust upon it after so long a period of tutelage under the Hudson's Bay Company, therefore, contained diverse elements which augured badly for the future political tranquillity of the country. This difference of race divided the population into natural rivalries quite as much as the difference in religion to which it consequently gave rise—the English half-breeds being mainly Protes-

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tants whilst the French half-breeds, and the majority of the Indians, were of the Catholic faith. In addition, a number of restless American residents who looked for ultimate annexation to the United States and were by no means favourable to the consolidation of British interests in the West were covertly engaged in negotiations with their friends across the borders in order that these desirable lands might some day exchange the Union Jack for the Stars and Stripes. With the aims of the Fenian party, who were avowedly enemies to Great Britain and who had adherents in Manitoba as well as numerous members across the International border, they largely sympathized, and it was no secret that here was a considerable section of the small and scattered community who still cherished the idea of a separate republic in the West. Here there were rivalries of race and creed sufficient to demand the most tactful treatment. "Orangeism, Ultramontanism, Red Republicanism, monopolies, Fenianism, spread-eagling, and annexation, and, not least active, Ishmaelism, the natural sentiment of the country," demanded careful and constant attention. But the Canadian Government were fortunate in the man who was chosen as Governor, for the Hon. Adam George Archibald (afterwards knighted) was tactful and firm and piloted the ship of State with considerable ability during his term of office. Time was, moreover, on the side of law and order. Within a short period after the establishment of representative government public confidence was restored, and immigrants in considerable numbers found their way towards the promised lands of the West. Many of the half-breeds, still discontented and nursing their grievances against the new authority that was being enforced upon them, sought more freedom on the shores of the Saskatchewan, but their places were quickly taken by farmers from Ontario, who, reaching the border by the railways of the United States, crossed the intervening prairie lands on their lumbering waggons and spread themselves over the rich lands of Manitoba. European immigrants also began to arrive in considerable numbers—Germans, Norwegians, and British, as well as a large number of immigrants of a peculiar and exceptional character, excellent and law-abiding settlers who have added greatly to the prosperity of the province but have

jealously retained their national characteristics and corporate clannishness. These were the Mennonites, who, holding peculiar views with regard to military service, had been forced to leave their temporary asylum near the sea of Azoff under the Russian Government and had found their way in large numbers across the Atlantic, where some settled in Nebraska and Kansas, though the majority trekked into Manitoba and settled along the Red River. They were originally Germans citizens who had migrated from Prussia. The introduction of these new and diverse elements was the making of Manitoba and paved the way for its present prosperity. The city of Winnipeg, which in 1870 was a small village containing only 300 inhabitants, soon became a place of considerable importance. The name Winnipeg was officially given to the city in the year of its incorporation in 1873, although for some reason the local Legislature had desired that the name of the capital should be Assiniboia and had inserted that name in the draft bill.

The district which had been organized for administrative purposes under the name of Manitoba—a Cree word stated by Père Lacombe to be derived from Manitewapaw, supernatural or god-like—was but a small part of the great North-West. The as yet unorganized territories were administered by the Lieutenant-Governor of Manitoba assisted by a Council of 11 members, and in order that there might be no repetition of the disorderly scenes that had been so common in the past, it was found necessary to organize a special force to assist in preserving order in Manitoba and the adjacent territories. Accordingly in 1872 Colonel Robertson-Ross, the Adjutant-General, was despatched by Sir John Macdonald to make a "reconnaissance of the North-West provinces and Indian territories of the Dominion" in order that the Dominion Government might be fully informed of the real state of affairs. It was their intention to organize a picked body of men to patrol the prairie lands and to bring the territories under their direct control. Colonel Ross's report revealed an unhappy state of affairs in the West, where the traders, trappers, half-breeds, and Indians were a law unto themselves. It has already been shown how the buffalo, upon which the Indians mainly depended for their livelihood, were being quickly reduced in numbers and were retiring

further and further from the danger zones where they were shot down and exterminated. The continual arrival of new settlers by way of the United States, with their wives and families, goods and chattels, tools and agricultural implements, was, moreover, a new and disturbing feature which decided many of the half-breeds to seek fresh quarters away from the new outposts of an advancing civilization. A migration westward of those elements of the population who did not take kindly to the new order of things was in progress, and when Colonel Ross arrived on the scene he found evidences that many of the worst excesses that marked the settlement of the Western States were taking place in Canadian territory. Law was practically non-existent. Order was at a discount. In his report the Adjutant-General laid special stress upon the proceedings of illicit American traders, who were pouring libations of "fire-water" on the prairies and were rapidly reducing the redskins into a liquor-sodden race of degenerates, quarrelsome, dangerous, and useless. The traders, who apparently feared neither God nor man, were engaged in the congenial task of lining their own pockets at the expense of the Indians. At Fort Hamilton,¹ states Colonel Ross, were a party of 20 well-armed ruffians who "have for some time carried on an extensive trade with the Blackfeet Indians, supplying them with rifles, revolvers, goods of various kinds, whisky and other ardent spirits, in direct opposition to the laws both of the United States and the Dominion of Canada. The demoralization of the Indians, the danger to the white inhabitants, and injury resulting to the country from this traffic are very great. It is stated upon good authority that during the year 1871, 88 of the Blackfeet Indians were murdered in drunken brawls among themselves, produced by whisky and other spirits supplied to them by those traders." Apparently the whisky bottle was fast becoming the god of the Indian, and the "blessings" of civilization were being poured down his throat instead of being instilled into his brain. The demoralization was spreading all over the West. The Indians, finding that the buffalo were being exterminated, largely, it must be confessed, by themselves, took to horse-stealing on a large scale and became *gens de chevaux* with a vengeance. All over this vast territory the

¹ Not far from Lethbridge.

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law was powerless. Murders took place and remained unpunished. "At Edmonton," continued the report, "there is a notorious murderer, a Cree Indian, who has committed several murders, and who should have been apprehended long ago. This man is to be seen openly walking about the Post. Indeed, the white men dwelling in Saskatchewan are at this moment living by sufferance, as it were, entirely at the mercy of the Indians. They dare not venture to introduce cattle or stock into the country or to cultivate the ground to any extent for fear of Indian spoliation." In the days of the Hudson's Bay Company, grave as were the abuses that existed, they were generally abuses that merely affected the white or semi-white population. But here was a state of things in which the Indians, for whose welfare the Canadian Government were primarily responsible, were being reduced into worse than pure savagery by the advance agents of "civilization" in their midst. Colonel Ross's investigations led him to suggest that a chain of military posts should be forthwith established from Manitoba to the Rocky Mountains, and that a Commissioner should be appointed whose special duty it should be to supervise the Indian tribes and to stamp out the nefarious practice of supplying the redskins with strong drink. The effect of his recommendations was the establishment of the Royal North-West Mounted Police, which was largely recruited from Lord Wolseley's officers and soldiers, and which played so important and honourable a part in the opening of the Great West.

The Dominion Government took the matter seriously in hand. An Act was passed which authorized the establishment of a body of mounted police, which was to be a purely civil force, but which was, nevertheless, to be organized upon a military system. The men were to be well-armed and equipped, but there was to be no undue display, "as little gold lace and furs and feathers as possible," were Sir John Macdonald's characteristic words. Work, not show, was to be the motto of the regiment. In this connection it is interesting to notice that the military side of the force was duly emphasized in its uniform, which consisted of the scarlet jacket, made familiar to the Indians by the troops of the "Great White Mother," and breeches of steel-grey cloth; for the men of the provincial battalion at Red River had not favourably impressed the redskins,

who had asked Colonel Ross, "who are those soldiers wearing dark clothes? Our old brothers who formerly lived there wore red coats . . . we know that the soldiers of our Great Mother wear red coats and are our friends." The first act of the new force was to break away from the time-honoured traditions of the past and execute a rapid ride of 800 miles from Emerson, on the Red River, along the frontier, to Fort Hamilton and Macleod, not far from the Rockies. They rode straight across the prairies, regardless of waterways, led by the compass and disregarding the natural avenues of travel. In this they were true pioneers of the new order of things, for hitherto Europeans had almost exclusively clung to the rivers flowing along their winding courses, following short portages to other waterways, and reaching their destinations by canoes and boats. Long journeys on foot and away from lakes and rivers were infrequent in Canada; for even the pioneers who were entering Manitoba by way of Lake Superior and the Lake of the Woods generally arrived at its threshold by water, either by the route followed by Lord Wolseley or by portages to the Red River. Few, if any, believed in the open prairie as a line of approach. Hence the ride of the North-West Police, although to some extent they followed the route of the International Frontier Commission, was an innovation that marked a new advance in Westward travel. The main portion of the force, after a journey of nearly 2,000 miles in four months, exclusive of the distances covered by detachments on special service, returned to Dauphin, under the Commissioner, Colonel George French, a Royal Artillery officer, their headquarters near the borders of Manitoba and Saskatchewan not being ready for their reception. Colonel Macleod, the Assistant Commissioner, was left in the heart of the Blackfeet country, where on the banks of the Old Man River a fort was erected and named after himself. Another detachment, under Inspector Walsh, was sent northwards to Edmonton to maintain order among the Assiniboines and Wood Crees. For some years the new body of trained and picked men did invaluable service in the Far West, and upheld the prestige of the Dominion Government amongst the restless inhabitants, particularly during the sudden irruption of the warlike Sioux Indians, who under their

chief, "Sitting Bull," had fled for refuge into Canadian territory. But in the winter of 1884-5 began the last and most serious of the rebellions in Western Canada. During the previous decade the position of the half-breeds and Indians had become increasingly difficult, for the introduction of railways was still further interfering with their usual means of existence and compelling them to adopt other measures for support than the time-honoured system of hunting and trapping. It is impossible to withhold a measure of sympathy from these survivors of a past era, who by racial temperament and training seemed unfitted to take their place in the agricultural development of the prairie lands. The Dominion Government were, moreover, unwilling to listen to their grievances, or, at least, they did not pay attention to their claims until it was too late to avert the disaster that was threatening. The land policy of the Government was particularly obnoxious to the *Bois-Brûlés*, for under the new surveys the country was being parcelled out in square sections; whereas under the old French method the so-called farms of the half-breeds had been arranged in long, narrow strips, with a short frontage to the rivers, but extending for considerable distances into the prairie. The half-breeds rightly feared the land grabbers and speculators, and they were, moreover, unable to obtain any title to the lands they had occupied. Under these circumstances, it is scarcely surprising that they sought for a leader who would press their claims upon the Government at Ottawa. He was found in Louis Riel, who since his abortive attempt to form a government on the Red River had been living in obscurity in the United States, teaching the young and hunting on the prairie lands. Riel readily responded to the invitation to assist his countrymen in the Saskatchewan, and in July, 1884, he was holding a meeting at Prince Albert and Duck Lake, haranguing his compatriots and again posing as the heaven-sent leader. At Batoche, situated in an angle between the north and south branches of the Saskatchewan, which was the chief centre of disaffection, he drew up a petition of rights, which, had it been received by the Ottawa authorities with more consideration and sympathy, might have been instrumental in preventing the bloodshed that followed. The main demands of this document were as follows: the issue of land titles to all settlers then

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in possession of land ; the extension to all half-breeds of grants of 240 acres and the advantages enjoyed by the Manitoba Indians ; the reservation of large tracts of land to be distributed among the children and descendants of the half-breeds during the next hundred years ; the sale of certain Dominion lands for the purpose of providing money for schools, hospitals, and churches in the half-breed settlements ; and more adequate provision for the Indians. It cannot be said that Riel's demands were either unnatural in the circumstances or outrageous ; but the "Bill of Rights" was treated with contempt and duly laid in the pigeon-holes of lost opportunities. The undoubted claims of the half-breeds to more consideration were disregarded, and for once Canadian officialdom, as has so often happened with the British authorities at Downing Street, reaped the harvest of their apathy and neglect. The fact cannot be ignored that the resulting anarchy was directly due to the inability of the Government to understand the position of affairs in the West. But if rebellion was foolish in 1870, how much more insane was Riel's attitude in 1885, when railways had pierced the continent, telegraphs had been constructed across the prairies, armed and mounted police were patrolling the disturbed districts, and militia could be sent to the disaffected area within a comparatively short time. The dream of a French province in the West had indeed passed away for ever, and Riel of all men, with his experience of the rapid advance of civilization across the States to the south of the borders, should have seen the hopelessness of the fulfilment of his dreams. But inordinate ambition and love of even temporary power urged him forward to the gallows. Sir William Butler, speaking of the patriot as he appeared fourteen years earlier, describes him as "a short, stout man with a large head, a sallow, puffy face, a sharp, restless intelligent eye, a square cut, massive forehead, overhung by masses of long and thickly clustering hair, and marked with well-cut eyebrows—altogether a remarkable-looking face, all the more so, perhaps, because it was to be seen in a land where such things are rare sights. This was M. Louis Riel, the little Napoleon, the Ogre, or whatever else he may be called. He was dressed in a curious mixture of clothing—a black frock-coat, vest, and trousers ; but

the effect of this somewhat clerical costume was not a little marred by a pair of Indian mocassins, which nowhere look more out of place than on a carpeted floor." Such was the leader of the Saskatchewan Rebellion. On March 17th, Riel, addressing his followers in the Catholic Church at Batoche, declared that all peaceful means had been tried without avail, and the following day he arrested the few loyal whites and organized a Council of his own adherents. Unfortunately the Napoleon of the Prairies sullied his name by rousing the Indian tribes against the Government. For some months he had been busy instilling into this inflammable material the need for rebellion, doubtless with the idea that during the ensuing anarchy the half-breeds would come by their own. But large parties of the Indians held aloof from active participation in the conflict, and those who took part, save for a few disastrous incidents, acted with chivalry towards their opponents and refrained from the usual accompaniments of Indian warfare—massacre and mutilation of their innocent victims. This was partly due to the restraining influence of the half-breeds and partly, doubtless, to the certainty of the ultimate punishment that would be meted out to them.

The actual opening of hostilities took place at Duck Lake, whither Major Crozier, in charge of the fort at Carlton, had sent a detachment of police and volunteers to secure the stores and ammunition in that place. But an advance party of the rebels had already seized all they could find and, flushed with their success, they forced the police to retire with a loss of twelve killed and seven wounded. This initial success decided the dissatisfied Indians to throw in their lot with the half-breeds, and the position of affairs being now extremely serious, the police from Fort Carlton marched to Prince Albert, in order to protect that important settlement from pillage and fire. Refugees from the neighbourhood to the number of nearly 1,800 had crowded into the little township, and the small defensive force, hampered with women and children, were anxious for the safety of their charges. But the news of the outbreak had been flashed across the wires to Eastern Canada. Volunteers from every portion of the Dominion offered their services, and General Middleton, commanding the militia, proceeded immediately to the Red River, where he took

charge of the military operations and directed the forces that were being despatched to the Saskatchewan. The 90th Rifles and part of the Winnipeg Field Force were hurried to the scene of the rebellion, and by April 9th other troops from the East had arrived at Qu'Appelle, which became the base of the military operations. Hence three columns were despatched : the first to advance against the notorious Cree chief, Big Bear, in the country around Edmonton ; the second to secure the safety of Battleford ; and the third, under General Middleton, to crush the rebellion at its centre. But before the arrival of the relief column at Battleford a large party of Big Bear's followers devastated the countryside, murdered some of the ranchers, but spared the women and children, and arrived at Frog Lake, where they shot down the men and two brave priests who had tried to avert the tragedy and ransacked the village. Proceeding on their mission, their hideous painted faces striking terror into the women and children they had captured, the Crees and Assiniboines made an attack upon Fort Pitt, where the garrison was commanded by Francis Dickens, a son of the great novelist, and after a short siege forced its defenders to retreat down the river to Battleford, where the relieving column arrived about April 29th. Meanwhile, General Middleton and the main body of the militia were advancing down both banks of the South Saskatchewan, and on April 24th the rebels were encountered on the ravine of Fish Creek, where, after a stubborn resistance, in which the half-breeds displayed bravery and resource, Riel's followers were defeated and retreated towards Batoche. Exactly a week later commenced the three days' fight at Batoche's Ferry. Here the half-breeds had entrenched themselves in pits and kept the militia and volunteers at bay, until on the third day the latter became so impatient of restraint that their officers were forced to sanction a charge. Eager to put an end to the rebellion, they dashed into the trenches and put the half-breeds to flight. Louis Riel again became a fugitive, but was captured within a few days. The opposition of the half-breeds completely collapsed, but the Indians still remained on the war-path. Big Bear inflicted a defeat upon General Strange on May 27th, but was himself defeated within the week by Major Steele, when the Saskatchewan

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rebellion came to an end. Riel, the instigator, was tried at Regina, and hanged on November 16th, whilst eight Indians who had figured in the Frog Lake massacre also suffered the death penalty. So ended the last of the rebellions in the West. Henceforth the history of Western Canada was to become a record of rapid progress and increasing prosperity. The half-breeds who had figured so largely in its eventful history were subsequently of little political importance, as they were swamped by the incoming masses of agricultural settlers. Furs had finally given place to wheat, for the golden dawn had flushed the Western skies.

CHAPTER XIV

The Canadian Pacific Railway

With the year 1886, when for the first time a through passenger service from Montreal to the Pacific was inaugurated, there commenced the final period of expansion in the West. The construction of a transcontinental railway had long been an issue in Dominion politics, making and unmaking Ministers, provoking angry agitation and heated argument, and involving the expenditure of large sums of money long before the scheme became a practical project. The railway now became a potent and national factor, supplying the iron link that was to bind the four sections of the Dominion together, joining the Atlantic and the Pacific in an indissoluble union, and erecting a barrier against American schemes for the economic and political subjection of Western Canada. For more than half a century a British transcontinental railway had been the ideal of dreamers and the aim of practical statesmen. Economists alone were doubtful of its success. However politically sound the wedding of the Western and Eastern Seas might be, it was by no means certain, and indeed seemed to be highly improbable, that the capital outlay involved in such a scheme was likely to be repaid within the lifetime of those of the present or next generation. So long ago as the year 1846, Sir Richard Bonnycastle, who during the Rebellion of 1837-38 had commanded the Engineers and rendered distinguished service in the defence of Kingston, advocated the extension of railway communication across the prairies to the

Pacific Ocean, and in the following year Sir John Harvey, then Governor of Nova Scotia, supported the proposal, which was also advocated by Thomas Dalton, the editor of the *Toronto Patriot*, in a number of articles. Joseph Howe, the Premier of Nova Scotia, who had been active in the introduction of railways in his own province, was also keenly interested in the future of the West and saw that the time was approaching when the two seaboard of Canada would be knit together by steam communication. Writing on July 27, 1851, he stated that "the line from the seaboard once completed to Canada, there cannot be a doubt that it will soon be extended into the fertile and almost boundless country beyond, being followed at every advance by a stream of emigration; and ultimately, and in our own time, reaching the shores of the Pacific." Such words at this period required more faith in the future progress of Canada than was possessed by the majority of the inhabitants of Eastern Canada, whose horizon was generally bounded by their own interests to the exclusion of the greater issues germinating in the womb of the future.

Amongst others who foresaw the probable Americanization of Western Canada unless the national ideal of an All-Canada railway were speedily accomplished, was the Earl of Carnarvon, who subsequently, as Colonial Secretary, introduced the British North America Act which legalized the political union of Canada. Speaking in the House of Lords on February 13, 1860, he reviewed the then means of communication with the Red River Settlement, and stated that the chief supplies of the necessities of life were passing through United States territory. "Last summer," he said, "trade to the value of not less than 1,500,000 dollars passed over this route into the Red River Settlement from the United States. It is a significant fact that last summer for the first time a small steamer made her way up the river into the settlement, and I have read a communication from one of the leading residents of the settlement stating that this circumstance has done more to Americanize them than anything else, and that if ever any improvement takes place it must be from a connection with the United States route. The only alternative or remedy to meet this would be to open up communication between

Lake Superior and the Red River, and thus to bring the settlement into relation with the other parts of British North America. . . . Much of the ultimate destiny of the settlement, and not only of the settlement but of the British possessions in North America, will depend on the conduct of the Colonial Minister on this question, and on the course taken by the Government within the next ten years. Steps ought to be taken for bringing the scattered portions of that great continent into closer connection, and all legitimate facilities and encouragement should be given to open up some communication between the Red River Settlement and Canada." It is difficult now to realize, as we are carried over the Canadian prairies by one of the several routes to the Pacific, how stupendous appeared the task in front of the Canadian people. The middle wastes of the West were practically unknown to the Canadians; Imperial feeling as it exists to-day was rather a sentiment than a creed; the political, and still less the economic, need for a steel link of Empire was not generally realized. Almost as great a faith in the destiny of Canada as a nation was required as that of the great Empire-builder in Africa who dreamed of a Cape to Cairo railway across the wilderness of Central Africa. Whilst the idea of a national transcontinental railway was taking root in Canada, Americans on the other side of the border were not slow to recognize how important it was to their interests that they should be first in the field and by constructing railways into the Western prairies be in a position to reap the coming harvest. In the report of a Senate Committee in 1869, it was stated that "the line of the North Pacific road runs for 1,500 miles near the British possessions, and when built will drain the agricultural products of the rich Saskatchewan and Red River districts and the gold country on the Fraser, Thompson, and Kootenay Rivers west of the mountains. . . . The opening by us first of a North Pacific Railroad seals the destiny of the British possession west of the 91st meridian. They will become so Americanized in interests and feelings that they will be in effect severed from the new Dominion, and the question of this annexation will be but a question of time." From this it is evident that it was the policy of the American

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Government to drive a wedge into the centre of Canada, severing the two halves of the Dominion. It is fortunate that the trend of American policy was understood by the responsible statesmen of the Dominion. The value of the Great West was being realized by all parties. The Assiniboine and Saskatchewan Exploring Expedition, under the leadership of Professor Henry Youle Hind and Simon J. Dawson, brought into prominence the great possibilities of the prairie districts and awakened a general interest in the country. The route then traversed between the Eastern provinces and the Red River had demonstrated the feasibility of a middle way to the West—which was afterwards taken by the Canadian Pacific Railway—and the possibility of early and direct communication between Montreal and Fort Garry. Moreover, the people of British Columbia, who were then almost as much cut off from the rest of Canada by the wide-spreading prairies as if the waters of the Pacific Ocean were flowing between Montreal and Vancouver, by insisting that the construction of railway communication should be one of the conditions of their adhesion to the Canadian Confederation, strengthened the hands of those who favoured the forward policy. It would be tedious and, indeed, unnecessary in a history of Western Canada to narrate the long and acrimonious negotiations and the political squabbles that preceded the construction of the new railroad across the prairies and through the formidable barrier of the Rockies. The preliminary surveys occupied nearly ten years, during which Governments came and went; policies were reversed; and the settlers awaited in vain the advent of the first locomotive. The Government of Sir John Macdonald, which had authorized the surveys and in 1872 had passed an Act to provide for the construction of the Canadian Pacific Railway by a private company that had been formed by Sir Hugh Allan, the founder of the Allan line of steamships, was forced to resign in 1874, after charges of corruption had been brought against members of the Government, who, it was asserted, had received contributions to the election fund from Sir Hugh Allan and his associates. The Ministry, under Alexander Mackenzie, which succeeded adopted a vacillating policy until the political cataclysm in October, 1878, enabled Sir John Macdonald and his friends to carry the railway policy to a triumphant conclusion.

On May 10, 1879, Mr. (afterwards Sir) Charles Tupper introduced a series of resolutions, of which the first was that the engagements that had been entered into with British Columbia as a condition of union with Canada should be respected, and that the line of railway between the Atlantic and the Pacific should be constructed with all practicable speed. The preliminary surveys for the Canadian Pacific Railway were commenced in 1871, when several parties of surveyors traversed the proposed routes and sought for the best passage across the Rocky Mountains and thence to some as yet undetermined point on the coast of British Columbia. Very little was really known of the country beyond the Rockies, save that it presented enormous difficulties to the engineers, and some years were spent in surveying alternative routes to the ocean. The surveying parties were under the supervision of Mr. (afterwards Sir) Sandford Fleming, whose yearly progress reports contain a full account of the difficulties met by the surveyors and engineers. At that time the limit of railway communication in the Dominion north-westerly from Lake Ontario was confined within a line drawn from the south-east of Georgian Bay to the capital at Ottawa—the branch line connecting Winnipeg with Pembina and the United States Railways not being completed until the year 1878. Sir Sandford Fleming and a small exploring expedition started on their journey across the continent in July, 1872. On the 31st of that month they reached Fort Garry, and on September 15th they entered the Yellow Head Pass—through which it was proposed to carry the new railway and through which the Grand Trunk Pacific has now been constructed. So far as the open prairie was concerned no great engineering difficulties were likely to occur. It was only necessary to exercise "care and judgment in locating the route so as to secure the least expensive bridging over the wide and deep troughs which the rivers of the plains have furrowed out."

As we have seen, political difficulties delayed the surveys and the construction of the railway, and it is noteworthy that by 1878 Sir Sandford Fleming had come to the opinion that more than "one line through Canada to the Pacific might ultimately be called for, and that as far as colonization of the vast central territory was concerned it was of little consequence

which was first constructed, but that the line which could be most speedily established and which would best subserve the general interests of the Empire was entitled to the preference." Accordingly the suggested route was to Selkirk, with a branch line to Winnipeg and the United States frontier, thence to the north of Lake Manitoba, across the narrows and along the south-west shore of Lake Winnipegosis to Battleford and Edmonton, and through either the Yellow Head or the Peace River Pass. But with the return of the Macdonald Government to power and the decision to proceed at once with the work, the route was changed, and it was decided that the railway should take a much more southerly course than had been suggested. This was partly due to the need for pushing the work forward over the most direct route in order to connect the eastern and western sections in the shortest possible time, and partly because, whilst it was proposed that the railway should be a Government road, the question of future competition by parallel lines was not considered. But when the work was undertaken by a private corporation the case became different, because the promoters could not afford to take the same economic risks and were bound to consider the welfare of their shareholders. During the year 1878 a syndicate of Canadian and American capitalists, of whom Mr. George Stephen (afterwards Lord Mount Stephen) and Mr. James Jerome Hill were the principals, had been operating the St. Paul and Pacific Railway, an American line running through Minnesota to the Canadian border and connecting there with the newly opened Pembina and Winnipeg branch of the proposed continental road. Negotiations having been opened with these financiers, Sir Charles Tupper on May 10, 1879, moved a series of resolutions embodying the policy of the Dominion Government, and on February 16, 1881, the Canadian Pacific Railway Company was incorporated. By the terms of the contract it was arranged that the sections of the railway then under construction, viz., 135 miles from Winnipeg to Emerson, 300 miles from Rat Portage to Lake Superior, and another small section, should be handed over to the Company; that they should complete the railway within a period of ten years, receive a cash subsidy of £25,000,000 from the Dominion Government, and a land grant of 25,000,000 acres under certain

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definite and restricted conditions. It is unnecessary to follow the financial history of the great undertaking: capitalists were chary of advancing money for a railway through the wilderness, and more than once the promoters—amongst whom Mr. Donald Smith, now Lord Strathcona, was one of the most active, and by his constant encouragement and invaluable advice did much to bring about its final success—were forced to shoulder great financial risks, whilst the Government had to come to the aid of this great national enterprise. But the faith of the promoters was fully justified, and finally, on November 7, 1885, Mr. Donald Smith drove the last spike into the steel highway that was destined to revolutionize the intercourse between Eastern and Western Canada and to be the main factor in bringing about the prosperity of the Prairie Provinces. It is a singular fact that many of those who were most closely concerned with the inception and completion of the first great Canadian transcontinental highway have reached a ripe old age. Lord Strathcona, the present High Commissioner of Canada, a maker of history in the true sense of the word, is now in his ninety-fourth year. Lord Mount Stephen, who was head of the Canadian Pacific Railway until 1888, is now eighty-four. Sir Charles Tupper, who was Minister of Railways and Canals from 1879 to 1884, during the most critical period of the Company, is now in his ninety-third year, and Sir Sandford Fleming, who had charge of the surveys, is now eighty-eight years of age. By the side of these venerable and honoured names, Mr. James Jerome Hill, the American railway magnate whose lines were designed to bring the agricultural

produce of Canada into the United States, with his seventy-three years; Sir William Van Horne, who succeeded Lord Mount Stephen, as president of the Canadian Pacific Railway, and Sir Thomas Shaughnessy, the present president, with their seventy and sixty years respectively, seem but boyish figures.

The construction of the Canadian Pacific Railway, which was the forerunner of the numerous lines that now traverse the North-West in every direction, is the last historical event in the moving and stirring drama of the Western prairies. It was a great and notable undertaking, cementing Canada more firmly than ever to the British Empire. The current of Canadian history was completely changed, and as the rails were swiftly laid across the open prairie and the line laboriously carried through the mass of mountains between Vancouver and the Western plains, an iron barrier was erected against the movement which seemed at one period to be likely to end in the ultimate annexation of Canada, or at least the Western provinces, to the United States. Henceforth commerce and trade flowed east and west instead of across the borders, and the rising tide of Americanism that threatened to overwhelm the great North-West was held back. During the construction of the railway invaluable help was rendered by the North-West Police. They preserved order amongst the Indian tribes, who witnessed the advent of gangs of workmen and the crowds of settlers who followed in their wake with feelings of dismay, and who saw the first locomotives rushing over the prairies with feelings of awe and wonder. The Indians were a source of much trouble

during the course of the work. They would drive their tomakawks between the ends of the rails, or place logs across them, thinking to derail the engines. On more than one occasion they gave trouble by squatting on the route of the approaching rails. A notorious character named Pie-à-pot encamped with his band at a point some distance ahead of the railway line and refused to budge as the works came nearer and nearer. But they might as well have attempted to dam the Niagara Falls as to hold back the advance of civilization across their ancestral lands. Their day was done. Half-breeds, fur traders, Indians, indeed survived, but merely as picturesque and innocuous anachronisms in a new land full of restless and resistless energy. The lands over which they had formerly roamed as lords were broken up into agricultural holdings and King Wheat reigned in their stead. They were, moreover, brought under provincial administration, and as the North was pushed further and further back and the veil lifted from the hidden lands of the West, new provinces were carved out of the great Dominion. In 1875 provision was made for the fuller organization of the government of the territories by the appointment of a resident lieutenant-governor, and Battleford was chosen as the seat of the Government. In 1883 Regina, situated on the main line of the new railway, was selected as the capital, and in 1905 the great provinces of Alberta and Saskatchewan were formed out of the southern portion of the territories and were admitted into the Dominion as equal partners with Manitoba in the rights and privileges of the Government.



"A NEW MAP OF AMERICA" (ABOUT 1621).



SUNSET, WINNIPEG RIVER.

ADMINISTRATION

MANITOBA

Formation of the Province



THE Confederation of Canada, as inaugurated in 1867, consisted only of four provinces — Ontario, Quebec, Nova Scotia, and New Brunswick.

Beyond Ontario, to the north and to the west, a vast district known as Rupert's Land and the North-West Territory was administered by the Hudson's Bay Company. The acquisition of this fertile land had for long been the desire of Canadians, and in the Act of Union, by which the interests of the confederated provinces had been cemented, provision had been made for the inclusion amongst the confederated provinces of Rupert's Land and the North-West Territory, as well as of the colonies of Newfoundland, Prince Edward Island, and British Columbia.

As regards the three colonies with which we are less intimately concerned, we may note that whilst Newfoundland retains to this day an independent constitution, British Columbia joined the Confederation in 1871, and Prince Edward Island in 1873. Before these events had transpired, however, the boundaries of Canada had been extended to include Rupert's Land and the

North-West Territory. During the first session of the Canadian Parliament an address was adopted with this intention, and in 1868 an Act was passed "enabling Her Majesty to accept the surrender upon terms of the lands, privileges and rights of the Governor and Company of Adventurers of England trading into Hudson's Bay, and for admitting the same into the Dominion of Canada." As the result of negotiations between Canadian delegates and the Company, an agreement was finally arrived at for the payment of £300,000 sterling as the surrender value of the Company's possessions, certain lands and privileges being reserved to the Company in addition. These terms were approved by the Canadian Parliament of 1869, when an Act was passed providing for the appointment of a Lieutenant-Governor and Council to administer justice and to establish laws in the territories concerned.

From the great tract of country that had thus been added to the Dominion a comparatively small, but relatively important, portion was, in 1870, carved into a new province under the name of Manitoba. The first Legislature of Manitoba was elected in the early part of 1871, and the three members who represented the province in the Dominion Parliament took their seats in the session of the same year.

Provincial Constitution

The local Constitution arranged for the province by the Canadian Government provided for a Lieutenant-Governor, an Executive Council of not less than five persons in the first instance, a Legislative Council of seven members to be increased to twelve after four years, and a Legislative Assembly of twenty-four members elected to represent electoral districts set apart by the Lieutenant-Governor. We have here the provincial equivalent of government by a Cabinet, an appointed Upper House, and a popularly elected Lower House. The Upper House, or, as it was termed, the Legislative Council, was destined to be short-lived, for in 1876 it was formally abolished.

Provincial legislation is consequently now controlled by the Lieutenant-Governor and the House of Assembly.

Legislative Powers

It may be well at this point to examine the nature and limits of the powers which in 1870 were entrusted to the Provincial Legislature. These powers, it may be noted, are derived by Manitoba, as by the other provinces of the Dominion, from the British North America Act of 1867. By this Act the Provincial Legislature holds the exclusive right to make laws on a

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number of matters, of which the following are the most interesting:

(a) The amendment of the Constitution except as regards the office of the Lieutenant-Governor.

(b) Direct taxation within the province for provincial purposes.

(c) The borrowing of money on the credit of the province.

(d) The establishment, maintenance, and management of public and reformatory prisons.

(e) Matters appertaining to hospitals, asylums, and charities.

(f) The granting of licenses to shops, saloons, &c.

(g) The administration of justice within the province, including the constitution, maintenance, and organization of provincial courts, civil and criminal, and including procedure in civil cases.

(h) The imposition of fines, punishment, and imprisonment for enforcing any law upon which the Provincial Government has the power to legislate.

(i) The incorporation of companies with provincial objects.

(j) Property and civil rights within the province.

And generally all matters of a merely local and provincial interest.

Education

Whilst the province has the exclusive right to legislate on the subject of education within its borders, provincial legislation may not affect prejudicially any denominational school in existence before July, 1867, and appeal may be made to the Governor-General in Council against legislation likely to infringe the rights of a Protestant or Catholic minority in educational matters.

Marriage and Divorce

The subject of marriage and divorce is one that has caused some difficulty both to the Provincial Governments and to the Dominion. By the British North America Act the "solemnization of marriage" comes within the jurisdiction of the provincial House, whilst "marriage and divorce" are by the same Act placed within the control of the Dominion. It has virtually been decided that what does and what does not constitute marriage,

and who may and who may not marry are subjects for provincial jurisdiction.

The powers of the province in relation to the solemnization of marriage have been defined as follows: "The Provincial Legislature alone can declare what the formalities shall be with which the ceremony of marriage must be attended in order that the contract may be one which shall be legally recognized. The Provincial Legislatures, and the Provincial Legislatures alone, have authority to declare what clergymen or officials shall have the legal right, within each province, to solemnize a contract of marriage."¹ By the terms of the *Ne Temere* Decree, marriages solemnized before a clergyman not of the Roman Catholic faith, whether contracted between Catholics or between a Catholic and a Protestant, are invalid in the eyes of the Roman Catholic Church. It has been established by judicial decision, however, that marriage in Canada is a civil contract, and an aggrieved party may call upon the law to uphold and to enforce the validity of a marriage so solemnized.

Powers for the purpose not having been delegated by the Dominion to the Courts of Manitoba, divorce can be obtained by residents in Manitoba only after legislation, special to each case, has been enacted by the Canadian Parliament. The Senate, where Bills of divorce are by usage first presented, has a special committee to whom these matters are delegated and which is governed by special rules.

Public Lands

Control of the public lands was retained by the Dominion, the province receiving in their place a fixed annual subsidy which now forms one of the principal sources of provincial revenue.

Powers of Dominion Government

Turning from the powers vested in the province to the overriding powers of the Dominion Government, we may note that these are far more extensive than might be gathered from the infrequency of their use. The matter has been judicially stated as follows: "The power of the Governor-General in Council to disallow a provincial Act is as absolute as the power of the King to disallow a Dominion Act, and is, in each case, to be the result of the exercise of a sound discretion, and for which exercise of discretion the Executive Council for the

¹ Sir Allen Aylesworth, Minister of Justice, August, 1911.

time being is, in either case, to be responsible, as for other acts of executive administration."² Provincial Acts are reported upon by the Dominion Minister of Justice, and it is the practice in the case of measures only partially defective to afford the Provincial Government the opportunity to remedy an objectionable clause. A Provincial Act, it may be noted, must be passed or disallowed in its entirety, the Governor-General in Council possessing no power to veto a portion of an Act and to approve the remainder. The exercise of the veto, however, has invariably given rise to jealousy and restlessness within the province over whose legislation it has been used, and it has become the general practice to submit provincial legislation of doubtful validity to the judgment of the courts.

Representation in Dominion Parliament

Manitoba has to-day four representatives in the Dominion Senate, and returns to the Dominion House of Commons to members elected for the following constituencies:

Brandon,	Portage La Prairie.
Dauphin,	Provencher.
Lisgar,	Selkirk.
Macdonald.	Souris.
Marquette.	Winnipeg.

The Lieutenant-Governor

Provincial legislation, as has been stated, is controlled by the Lieutenant-Governor in Council and the House of Assembly. The Lieutenant-Governor is appointed by the Governor-General of the Dominion for a period running in practice to five years. He is responsible solely to the Dominion Government, by whom alone he may be removed from power.³ In all administrative matters he is the representative of the King, and he is fully authorised to exercise all the powers lawfully belonging to the sovereign in respect of the assembling, proroguing or dissolving of the Legislative Assembly. No Provincial Act can become law that does not carry his assent. It may be taken, however, that the Lieutenant-Governor, before definitely refusing his consent, would submit an objectionable Act to the Dominion Government, by whose advice he would be guided.

² Harrison, C. J., in *Leprohon v. City of Ottawa*.

³ "In the memorable case of Mr. Letellier de St. Just, removed from the Lieutenant-Governorship of Quebec in 1879, it has been decided that the Governor-General acts on the advice of his Cabinet in considering the very delicate question of the removal of so important an officer."—BOURINOT.

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The Legislative Assembly

The Legislative Assembly consists at present of 42 elected members. The House is, as is customary, divided into two parties, known respectively as Conservative and Liberal.

The Executive Council

The Premier, as the leader of the predominant party in the Legislative Assembly, is, after an election, called upon by the Lieutenant-Governor to form his Executive Council. This body, by which the deliberations of the House are guided and its actions fashioned, is as present constituted as follows :

Premier and Land Commissioner.
Commissioner of Railways.
Commissioner of Provincial Lands.
Minister of Education.
Municipal Commissioner.
Minister of Public Works.
Attorney-General.
Provincial Treasurer.
Minister of Agriculture.
Provincial Secretary.

At present the Provincial Premier holds also the offices of Commissioner of Railways and Provincial Lands. The Minister of Education is also, it may be noted, the Municipal Commissioner. The Provincial Lands mentioned above are, it may be noticed, most limited in extent.

Qualifications of Electors

The qualification of electors and the government of elections are controlled by the Manitoba Election Act, which was amended as recently as 1910. With certain exceptions, such as Judges of the Court of King's Bench and County Courts, Indians receiving a Government annuity, and lunatics, every person is entitled to be registered as an elector who

- (a) Is of the male sex ;
- (b) Is the full age of twenty-one years ;
- (c) Is a British subject by birth or naturalization ; and
- (d) Has resided within the province for one year, and within the electoral division for which he makes application to be registered as an elector for three months, next preceding the date of his application for registration.

Administration of Justice

The position of the judiciary in a country possessing a written constitution, which from time to time must necessarily require to be interpreted, is naturally one of peculiar importance. For this reason the distribution as between the Dominion and the province of control over the administration of justice becomes a matter of considerable interest.

Criminal law is uniform throughout the Dominion ; it is, in so far as concerns the constitution of the Courts, within the sole control of the Dominion Government, and is founded on the criminal code in force in Great Britain. Civil law, on the other hand, is within provincial jurisdiction and in some matters differs slightly in the various provinces. Judges of the Superior, District and County Courts are appointed by the Governor-General in Council,¹ are paid by the Dominion and are independent of provincial control. Justices of the peace, police, and stipendiary magistrates are, however, appointed by the Provincial Government. All judicial appointments are made on the recommendation of the Dominion Minister of Justice, whose duty it is to inquire into any charges made against judges, and to advise the Canadian Parliament as to any steps that it may be advisable to take in consequence.

The independence of the judiciary is recognized in Canada as forming one of the fundamental principles of public liberty. "The judges," says Bourinot,² "are not dependent on the mere will of the executive in any essential respect, nor on the caprice of the people of a province for their nomination and retention in office." Their salaries are charged permanently on the civil list, and they are so far removed from political influence and turmoil that they can be deprived of office only by the Governor-General on address of the Dominion Senate and House of Commons.

In the larger towns police or stipendiary magistrates, appointed by the province, try summarily cases of drunkenness, disturbances and breaches of the peace, and other minor offences, or send for trial at the superior courts those persons who are charged with criminal offences and who cannot, or do not wish, to be tried in these

courts of mere summary jurisdiction. Small debts are collected in Manitoba through the County Court. The Court of King's Bench, comprised of a chief justice and three justices, possesses in Manitoba all the powers of the superior courts of other provinces.

Cases of controverted or disputed elections either for the Dominion or Provincial Legislature are heard by judges of the superior courts, two judges constituting the court. Appeals lie, in the case of a provincial election, to the Supreme Court of Appeal of the province, and, in the case of a Dominion election, to the Supreme Court of Canada.

Indian Affairs

Indian tribes are confined to certain areas which are administered by the Department of the Interior of the Dominion Government. These reservations within the Prairie Provinces are very extensive, and comprise : in Manitoba, 337,887 acres ; in Saskatchewan, 1,140,286 acres ; and in Alberta, 1,244,518 acres. The Indian tribes are steadily decreasing in numbers, and the Dominion Government finds it possible from time to time to recover, for the purposes of agriculture, portions of the territory reserved for their exclusive use.

Extension of Boundaries

The recent extension (1912) of the boundaries of the province marked the introduction of certain modifications in the relationship which had hitherto existed between the Provincial and Dominion Governments. This extension, which had long formed the wish of the people of Manitoba, placed that province territorially in a position of practical equality with the provinces of Alberta and Saskatchewan. The extension may be briefly described as northward to the sixtieth parallel of latitude and north-eastward to the shores of Hudson's Bay. The western boundary is, of course, that of the province of Saskatchewan. The Manitoba Boundaries Extension Act (1912) is, however, by no means limited in its scope to the important increase in area which the province has obtained, since certain sums payable to the province by the Dominion are re-adjusted in such a fashion that financially, as well as territorially, the position of Manitoba now approximates more closely to that held by the other Prairie Provinces.³

¹ The judges of the Courts of Probate in Nova Scotia and New Brunswick are exceptions to this rule.

² "Constitutional History of Canada."

³ See article on "Finance," p. 61

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The increase in the area of the province has naturally brought to the fore the question of an increase in the representation Manitoba at present enjoys in the Canadian Senate. Power is reserved by the Dominion in the Extension of Boundaries Act to increase the number of senators

at present representing the province from four to five and subsequently to six.

All lands, mines, and minerals in the extended territory are vested in the Crown, and royalties and general revenue derived from these sources will be administered by the Dominion Government for the purposes

of Canada. None the less, the great increase in territory which has resulted from the passing of the Boundaries Extension Act forms the most important development that has occurred in the administrative history of Manitoba since its formation as a province in 1870.

ALBERTA AND SASKATCHEWAN

BY JOHN BLUE, B.A., PROVINCIAL LIBRARIAN, ALBERTA

Historical

THE provinces of Alberta and Saskatchewan comprise the greater part of the area of Western Canada formerly designated as the North-West Territories and which originally constituted the Hudson's Bay Company's Territories in Canada. In 1905 provincial autonomy was granted by the Parliament of Canada to the North-West Territories, and two new provinces were admitted to the Canadian Federation under the names of Alberta and Saskatchewan. The Acts by which this was effected are called the Alberta and Saskatchewan Acts respectively.

From 1870 until 1905 the North-West Territories were practically a colony of the Dominion of Canada, and stood in a similar relation to the Federal authority of Ottawa as Canada formerly stood with respect to the Imperial authority in London. As the territories developed, larger powers were granted from time to time by the Federal Government. During this period the territories were governed pursuant to the Acts of the Parliament of Canada passed from time to time for the peace, order, and government thereof. The most important of these Acts was the North-West Territories Act, 1875. It has been called the Constitutional Act of the North-West Territories, for it formed the basis of all subsequent Acts respecting the government of the territories. It provided for a governing body the Lieutenant-Governor and five councillors appointed by the Federal Government, of which number the two stipendiary magistrates of the territories were members ex-officio. Provision was made for the election of popular representatives to the Council from districts not exceeding an area of 1,000 square miles containing a white population of 1,000 inhabitants. Power to make laws was restricted to

specified classes of subjects. All Acts and ordinances came into force only after they had been approved by the Governor-General in Council. Legislative authority was granted to the territories and the administration of affairs was vested in the Lieutenant-Governor, aided by his Council. The Lieutenant-Governor regarded himself as responsible to the Federal Parliament only, and regulated his administrative programme accordingly. As the number of elected representatives grew in the Council, the inevitable conflict between popular sentiment on the one hand and the Lieutenant-Governor, supported by the appointed and ex-officio element in the Council, on the other began, and followed along the lines that had characterized the struggle for responsible government in the older provinces. The North-West Council was superseded by the Legislative Assembly of the North-West Territories in 1888. The legislative and executive elements of the Government were separated, and the Lieutenant-Governor no longer sat as president of the governing body. He was compelled to select a committee of four from the members of the Legislative Assembly to advise him on matters of finance. The establishment of an elected assembly did not solve the problem of responsible government. The Assembly had no control over the amounts given by the Federal Parliament. The budget was prepared by the Lieutenant-Governor and submitted without the advice of the Assembly to the Federal Government. He was not responsible to the Assembly for the amounts expended on the various public services. There was no Cabinet of responsible ministers, and no body responsible for the initiation of legislation. Memorials and addresses were regularly presented to the

Federal Government by the Assembly claiming a larger measure of control over the government of the territories. As a concession to these requests the Federal Parliament passed an Act in 1891 granting to the Assembly of the Territories larger powers of local self-government, including "the expenditure of territorial funds and such portion of the moneys appropriated by Parliament for the territories as the Lieutenant-Governor is authorized to expend by and with the advice of the Legislative Assembly or of any committee thereof." From this date responsible government may be said to have been established, as the following quotation from the last message of Lieutenant-Governor Royal will show :

"When, on July 4, 1888, I was sworn in as Lieutenant-Governor of the North-West Territories, the functions of that office were as totally different from those of the Lieutenant-Governors of the provinces as they will be from those performed by my successor. I was responsible to the Privy Council of Canada alone for all executive acts done in the territories. The Assembly had hardly a voice in the government of the country, and the Lieutenant-Governor was practically a political commissioner under whose direct supervision and authority the affairs of the territories were conducted and administered. Now all this has been changed, and hence my satisfaction. The Legislature to-day practically enjoys the rights and privileges of self-government."

Present State of the Constitution

The Constitution of the provinces of Alberta and Saskatchewan exists in different forms, viz. :

1. The rigid form as expressed in the B.N.A. Act and the Alberta and Saskatchewan Acts of 1905, commonly known as

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the Autonomy Acts. This part of the Constitution is imposed upon these provinces by the higher authority of the Federal Parliament and the Imperial Parliament of Great Britain and Ireland. It cannot be amended by the Legislature of either province, and any change necessary must be made by the higher Parliament.

2. The Constitution exists also in definite and flexible form. This part is created by the people of the province itself, and is expressed in the various Acts of the legislatures of each province passed since 1905, in the laws of the North-West Territories, continued in force at the time of the creation of the provinces and not since repealed, and in the laws of England in force July 15, 1870, except in so far as such laws have been altered or repealed by the Ordinances of the North-West Territories or by the Acts of the said provinces. It lies within the power of the Legislature to change such laws as necessity and the growth of the country require.

3. The Constitution exists further in unwritten forms as expressed in the usages and incidents of British parliamentary practice, as are found, for example, in the commission issued to the Lieutenant-Governor on assuming office and the various conventions that govern his relations with his responsible executive on the one hand, and the Governor-General of Canada from whom he received his appointment on the other.

By virtue of the power vested in the Parliament of Canada by the British North America Act of 1871, the Federal Parliament passed the Alberta and Saskatchewan Acts creating the new provinces of the same name. By the terms of these Acts the British North America Acts, 1867-86, are made to apply to the two provinces in the same way and to the same extent as they apply to the older provinces of Canada, as if, that is, the new provinces had been originally included in the Confederation, except in so far as they varied by the Autonomy Acts and such provisions as are in terms made, or by reasonable intendment apply, to one or more provinces and not to the whole of the provinces of the Dominion. These variations affect two classes of subjects, viz., Education and Public Lands.

Education

By Sec. 17 of the Alberta Act, Sec. 93 of the British North America Act, 1867, was

modified, by substituting for paragraph 1 of the said section, the following paragraph: "Nothing in any such law shall prejudicially affect any right or privilege with respect to separate schools which any class of persons have at the date of the passing of this Act under the terms of Chaps. 29-30 of the Ordinances of the North-West Territories passed in the year 1901 or with respect to religious instruction in any public or separate school as provided for in the said Ordinances."

Lands

By Sec. 21 of the said Act Crown lands, mines, and minerals, and royalties incident thereto, and the interest of the Crown in the waters within the province under the North-West Irrigation Act, 1898, continue to be vested in the Crown and administered by the Government of Canada for the purposes of Canada.

Inasmuch as the public lands of the provinces of Alberta and Saskatchewan have been reserved, these provinces receive a half-yearly cash subsidy in lieu thereof. The subsidy increases directly as the population in the following manner:

1. Until population reaches ...	400,000	\$375,000
2. Thereafter until population reaches ...	800,000	562,500
3. Thereafter until population reaches ...	1,300,000	750,000
4. Thereafter ...	—	1,125,000

Legislative Power

Except therefore in the instances referred to in the preceding paragraphs, the Constitution of the provinces of Alberta and Saskatchewan is identical with those of the older provinces. Like these they have surrendered to the Federal Parliament the exclusive right to make laws for the peace, order, and good government of Canada in relation to all matters not coming within the classes of subjects assigned by Sec. 92 of the British North America Act exclusively to the legislatures of the provinces, that is to say, "All matters of a merely local nature or private nature in the province." Within the limits of these delegated powers, however, the Legislature has absolute authority. "Where there is jurisdiction the will of the Legislature is omnipotent, according to British theory, and knows no superior law."

Concurrent powers of legislation are conferred upon the Dominion Parliament

and Provincial Legislatures in relation to agriculture and immigration, but no provincial act on these subjects may be repugnant to any Dominion law on the same subject.

Legislative authority within the two provinces is vested in the Lieutenant-Governor and the Legislative Assembly of each respectively. All Acts are enacted in the names of "His Majesty by and with the advice and consent of the Legislative Assembly." In relation to assent to Bills, disallowances of Acts, and signification of pleasure of Bills reserved, the Lieutenant-Governor represents the Crown with respect to the province in the same manner in which the Governor-General represents the Dominion. No Bill passed by the Legislature becomes law until it has received the assent of the Lieutenant-Governor. At the conclusion of a session of the Legislature the Lieutenant-Governor goes to the Legislature. The Clerk of the Legislature reads the list of Bills passed, to which His Honour, seated on the Speaker's Chair, assents, whereupon the Clerk announces to the members assembled in their places, "In His Majesty's name His Honour the Lieutenant-Governor doth assent to these Bills." It often happens, however, that in case of public necessity the Lieutenant-Governor gives his assent to a Bill as soon as it is passed by the Assembly.

At the conclusion of each session of the Legislature the Lieutenant-Governor transmits two copies of every Act passed during that session to the Secretary of State for Canada. One of these is in turn transmitted to the Colonial Office. Thus it will be seen that the Federal Government exercises a residuary control over all provincial legislation.

Legislation passed by the Assembly is of two kinds, viz., public and private legislation. Private Bills are distinguished from public Bills in that they relate directly to the affairs of private individuals or of corporate bodies, and not to matters of public policy. They must originate by petition and be subject to special rules, such as payment of fees and due advertisement in the official gazette and newspapers of the province. Public Bills represent the policy of the Executive, and unless the Executive is able to command a majority of the members of the Legislature in support thereof, they forfeit the confidence of the Lieutenant-Governor and must resign or ask for an appeal to the electors. The



1. NEW PROVINCIAL LEGISLATURE BUILDINGS, WINNIPEG, MANITOBA.
 2. PARLIAMENT BUILDING, REGINA, SASKATCHEWAN. 3. GOVERNMENT BUILDINGS, EDMONTON, ALBERTA.

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initiation of public legislation is one of the responsible duties of the Executive or Cabinet, but it is not lawful for the Executive or the Legislature to adopt or pass any vote, resolution, or address for the appropriation of the public revenue to any purpose unless it has been recommended by a message from the Lieutenant-Governor.

By Sec. 91, British North America Act, the Legislature is empowered to alter its constitution. The Legislature of each province began with 25 members. This number was increased after the quinquennial census of 1906 to 41 in each province. In 1912 the membership of the Saskatchewan Legislature was increased to 54. The Alberta Legislature will increase the representation before the next provincial election on the basis of the decennial census of 1911. Those entitled to vote at provincial elections are British subjects by birth or naturalization, and who have resided at least 12 months in the electoral division in which they desire to vote.

Executive Power

The executive power is vested in the Lieutenant-Governor, but by the instructions of his commission he is guided by the constitutional principles and precedents which obtain in every British State where Parliamentary Government is established. Upon him lies the duty of forming a responsible executive council to administer the public business. At the same time he is enjoined to maintain a position of dignified impartiality and to guard the interests of the Dominion as well as those of the province. He holds office during the pleasure of the Governor-General, but is not removable within five years from the time of his appointment except for cause. In this way it will be seen that the Federal Government has a residuary executive or administrative control over the provinces, in that it has power to change the executive head of the province.

Not being directly nominated by the Sovereign, the Lieutenant-Governor is not entrusted with the personal prerogatives of mercy and honour attaching to those governors by commission from the King, but at the opening and closing of the Provincial Legislature, the celebration of His Majesty's birthday, or holding a levee, he is regarded as acting directly on behalf of His Majesty. In short, he represents

the monarchical element so characteristic of our British system.

The Executive Council is chosen from the members of the Legislature and is entrusted with the conduct of the public business as long as it holds the confidence of that body. For the better expedition of the public business the affairs of Government are organized into departments. One of the first acts of the first Legislative Assembly of both provinces was to pass the Public Service Acts creating the several departments as follows :

Alberta.

1. Office of Executive Council.
2. Department of Attorney-General.
3. " " Provincial Secretary.
4. " " Treasury.
5. " " Public Works.
6. " " Agriculture.
7. " " Education.
8. Offices of Legislative Assembly.

Saskatchewan.

1. Office of Executive Council.
2. Department of Attorney-General.
3. " " Provincial Secretary.
4. " " Treasury.
5. " " Public Works.
6. " " Agriculture.
7. " " Education.
8. " " Railway Commissioner.
9. Offices of Legislative Assembly.

At first the ministers administered more than one department, but the rapid development that has taken place in recent years has increased the work of the several departments to such an extent that each is administered at the present time by one member of the executive. Since the organization of the provinces in 1905 new departments have been created as follows :

Alberta.

Department of Railways and Telephones (1912).

Department of Municipal Affairs (1912).

Saskatchewan.

Department of Municipal Affairs (1909).

Treasury Department

1. The Treasury Department is under the direction of a member of the Executive Council, the Provincial Treasurer. He has the management and control of the revenue and expenditure of the province. All revenues excepting certain special funds form the consolidated revenue fund, the

expenditure of which is subject to audit, legislative review, and vote. All accounts must pass the Provincial Auditor, an officer removable only on address to the Assembly.

2. The provincial revenue is derived from three sources, viz. :

- (1) Dominion subsidies.
- (2) School lands.
- (3) Provincial taxes.

3. The fiscal year closes on December 31st. As soon as practicable after the close of each fiscal year a detailed and complete statement of the public accounts for that period must be prepared by the Provincial Treasurer showing the state of the general revenue fund, the trust and special funds, and all matters requisite to explain the financial transactions of the province.

Estimates of the expenditure are generally for the period of one fiscal year. No petition for any sum relating to the public service, nor any motion for a grant or charge, whether payable out of the consolidated revenue fund or other moneys provided by the Legislature, is ever received or proceeded with unless recommended from the Lieutenant-Governor, or theoretically, the Crown.

Department of Education

This department controls public schools, normal training schools, and universities within the province. With regard to education, the province controls absolutely the programme of studies followed in the public schools, the normal school, and, through the Board of Governors, the curriculum and administration of the provincial university. Through inspectors the department supervises the course of studies, the methods of the teachers who are employed by the local school board, and determines the amount of provincial grant that is due to each school.

Department of Public Works

As the name implies, the minister of this department controls the construction and maintenance of all public works in the province, and issues surveys, maps, and plans.

Department of the Attorney-General

This department is presided over by a member of the Executive Council, the Attorney-General. He is the general agent of the Crown. To him belongs the super-

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vision of the administration of justice within the province and the administration of public affairs according to law.

He is charged with the conduct of the following matters, among numerous others :

(a) The law governing the sale of intoxicating liquors.

(b) Titles to real property in the province.

(c) Appointment of sheriffs, registrars, judicial officers, justices of the peace, coroners, notaries public, and commissioners for taking affidavits.

(d) Hearing applications for the granting of fiats regarding petitions of right, criminal informations, indictments, actions to set aside Crown patents, actions to recover fines and penalties.

(e) The appointment of counsel for the conduct of criminal business.

(f) The supervision of the officers of the courts of law in the province.

(g) The examination of papers in connection with the admission and discharge of lunatics, &c.

Provincial Secretary's Department

The Provincial Secretary is a member of the Executive Council. He is the keeper of the seal of the province, issues all letters patent, commissions, and other documents under the seal of the province, and countersigns the same. He is the keeper of all the registers and archives of the province.

He has charge of the provincial institutions, such as asylums and gaols.

Department of Agriculture

This department is presided over by the Minister of Agriculture, a member of the Executive. He has charge of agriculture, statistics, public health, and hospitals. This department collects statistics relating to agriculture and manufacturing, and disseminates the same to promote the progress of the province, and sees to the observance and execution of the law relating to statistics, public health, and agriculture.

Reports of the work done in the various departments and branches thereof are annually prepared and laid upon the table of the Legislative Assembly and printed for distribution.

Department of Municipal Affairs

The Minister of Municipal Affairs is a member of the Executive Council, and is

responsible to the Legislature for the administration of the municipal institutions of the province. He has power to make regulations governing the methods of book-keeping, accounting, and auditing in the municipalities of the province and to make and enforce such regulations as shall conduce to a systematic and uniform conduct of the affairs thereof. For this purpose inspectors regularly visit the officials of the municipalities and report to the department.

The Minister of Municipal Affairs is charged with the duties under the Local Improvement Act, the Village Act, and the Education Tax Act. Under the Education Tax Act all lands in every municipality are taxed for the benefit of education. The taxes are paid into the consolidated revenue fund of the province.

Department of Railways and Telephones

The Minister of Railways and Telephones is a member of the Executive Council. He is entrusted with all the powers and charged with all the duties created by the Railway Act of Alberta, 1907, and the Act respecting Government telephone and telegraph systems. The corresponding department in Saskatchewan is that of railways, telephones, and telegraphs. The head of the department is called a commissioner, and exercises exactly similar powers under the Saskatchewan Railway Act.

In this respect it may be observed that in Saskatchewan the term commissioner is used in place of minister as in Alberta.

The Legislative Assembly

The chief officers of the Legislative Assembly are the Speaker and the Clerk of the House. The Speaker presides over the deliberations of the House and enforces the observance of all rules for preserving order in its proceedings. He puts every question and declares the determination of the House. As "Mouth of the House" he communicates its resolutions to others, conveys its thanks, expresses its censure, its reprimands, or admonitions. He is in fact the representative of the House itself in all its powers, proceedings, and dignity.

The Clerk of the Assembly makes true entries, remembrances, and journals of things done and passed in the House. He signs the addresses, votes of thanks, and orders of the House. He endorses the

Bills sent to the Lieutenant-Governor. He has the custody of all the records or other documents of the House and is responsible for the conduct of the business of the House in the official department under his control. He assists the Speaker and advises members in regard to questions of order and the proceedings of the House.

During the recess he publishes in each issue of the *Alberta Gazette* rules respecting notices of intended applications of private Bills and fixes the date for receiving private Bills after the proclamation convening the Assembly has been published.

The Law Clerk prepares a report upon all public Bills after their second reading and before the same are submitted to the committee charged with the consideration thereof. In their subsequent stages he is responsible for these Bills should they be amended.

Local Government

Among the powers exclusively assigned to the Legislatures of the provinces is the right of each province to create and establish municipal institutions within its boundaries. This right Alberta and Saskatchewan enjoy in common with other provinces. The various local bodies created and established in these provinces are as follows : Cities, towns, rural municipalities, villages, and local improvement districts.

The Administration of Justice

The judicial power of the provinces of Alberta and Saskatchewan is vested in a number of courts as follows :

(a) A court of superior civil and criminal jurisdiction, the supreme court of Alberta or Saskatchewan.

(b) Minor courts of civil and criminal jurisdiction, the district courts of each judicial district.

(c) Police magistrate courts in towns and cities and the courts of the justices of peace.

The supreme court in each of the two provinces consists of a Chief Justice and four puisne judges. Each province is divided into a number of judicial districts ; each district has a court presided over by a judge, a clerk, and where necessary an additional judge and clerks. Regular sittings of the court are fixed by the Lieutenant-Governor in Council. District courts have full jurisdiction in all matters

THE PRAIRIE PROVINCES OF CANADA

which may be a subject of a claim for relief, the enforcement of a right legal or equitable where such claim, debt, or damage does not exceed \$600. In Saskatchewan the limit is \$400.

The district courts have power to grant probate of wills, letters of administration, and pass the accounts of executors and administrators, to make orders for the division and disposition of the property of testators or intestates, in relation to the estate and effects of persons dying within the limits of the court.

With respect to claims under \$100, there is a small debt procedure in the district court for the summary recovery of small debts through the clerk of the court.

The district court is also a court of record

for the trial without a jury of any person charged with a criminal offence, providing the person charged consents.

The organization of the courts, the procedure therein, and the number of judges necessary for the speedy administration of justice are determined by the Provincial Government, but the appointment of all judges in the supreme court and district courts is under the control of the Dominion Government. They hold office for life and can be removed only upon an address from both Houses of the Federal Parliament.

The police magistrates and justices of the peace are appointed by the Lieutenant-Governor in Council. Proceedings before these officers are governed by the Criminal Code of Canada. They conduct preliminary trials for criminal offences, and are com-

pelled to make annually to the Attorney-General complete returns of all convictions.

With the exception of a small force of police maintained by the municipalities of the cities and larger towns, the task of maintaining order and the King's peace falls upon the Royal North-West Mounted Police, a force of which the officers are magistrates and the rank and file constables. Although this force was organized by the Federal Government and is maintained by the Federal Parliament, the provinces of Alberta and Saskatchewan contribute large sums each year towards the maintenance of this body. Detachments of the force are stationed at various points in the province, and regular patrols extending to the remotest corners of the two provinces are enforced.

LIEUTENANT-GOVERNORS AND PREMIERS

Lieutenant-Governor of Manitoba

CAMERON, his Honour Lieutenant-Colonel Douglas Colin. Born Hawkesbury, Ontario, June 8, 1854; educated High School, Vankleek Hill, Ontario; married, February, 1880, Margaret, daughter of late William Ferguson; removed to Manitoba 1880. Has been mayor of Rat Portage; is a director Northern Crown Bank (of which he was a promoter). Represented Fort William and Lake of the Woods in Liberal interest in Ontario Legislature 1902-5; unsuccessfully contested South Winnipeg for the Provincial House in 1903, and Winnipeg for the House of Commons in 1908. Appointed Hon. Lieutenant-Colonel 79th Cameron Highlanders, February, 1910; Lieutenant-Governor of Manitoba, July, 1911.

Premier of Manitoba

ROBLIN, Honourable Rodmond Palen. Born Sophiasburgh, Ontario, February 15, 1853, of German descent; educated Albert College, Belville, Ontario; married, September, 1875, Adelaide Demill; entered Manitoba 1880, and farmed at Carmen. Unsuccessfully contested West Dufferin in 1886; since 1888 has represented Dufferin in Provincial Legislature; Premier of Manitoba since 1900. He is a director Northern Crown Bank. Attended the coronation of King Edward VII, 1902;

attended coronation of King George V; made K.C.M.G., 1912. Conservative.

Lieutenant-Governor of Saskatchewan

BROWN, his Honour George William. Born Holstein, Ontario, 1860; educated High School and Toronto University, where he graduated in Arts. Went west on account of failing health, and took up homestead near to Regina in 1882. Admitted to Saskatchewan Bar, 1891; practised for 21 years. In 1888 contested seat in old North-West Territory Legislature and was defeated; in 1894 elected to Legislature as member for North Regina; represented that constituency until incorporation of province in 1905, when he visited the British Isles. Again resuming, for reasons of health, his farming activities, he ably supported the farmers' interests in many different directions. On three occasions he acted as president of the Regina Exhibition. He was one of the founders of the Regina College, and has consistently displayed a practical interest in educational matters. In 1911 he was elected by acclamation to the Regina City Council, but before serving for one year was called upon to fill his present office. Liberal.

Premier of Saskatchewan

SCOTT, Honourable Walter. Born, London Township, Middlesex County, Ontario,

October 27, 1867, son of George and Isabella Telfer Scott; educated public schools. Married Jessie Florence Read, daughter of the late E. B. Reed, postmaster, Regina, 1890; has one daughter. Held part interest in the *Standard*, Regina, 1892-3; proprietor and editor of the *Times*, Moose Jaw, Saskatchewan, 1894-5; purchased the *Leader*, Regina, from its founder, the late Nicholas Flood Davin, 1895; edited and managed same until 1900; president Western Canada Press Association, 1899; now president Moose Jaw *Times* Publishing Company, Ltd. Elected to the House of Commons for Assiniboia West, 1900 and 1904; took part in negotiation and passage of Acts creating provinces of Alberta and Saskatchewan; was invited to form first Saskatchewan Ministry, September 5, 1905, and elected to Saskatchewan Legislature for Lumsden district; assumed Public Works portfolio; after redistribution, 1908, elected for Swift Current; re-elected for Swift Current general election, 1912; in Cabinet re-arrangement, 1912, relinquished Public Works portfolio and was appointed Minister of Education. Paid an extended visit to Europe and the East, 1908, and again 1910. Present at the coronation of King George V, and was presented to their Majesties, 1911. Liberal.

ADMINISTRATION

Lieutenant-Governor of Alberta

BULYEA, his Honour George Hedley Vicars, son of late J. Albert Bulyea. Born Gagetown, New Brunswick, February 17, 1859; educated Gagetown Grammar School and University, New Brunswick (B.A. Math. school and French prizeman, 1878; LL.D., 1908) LL.D. Lon., Alta. University, 1908. Married, January, 1885, Annie Blanche, second daughter of R. T. Babbitt, Queen's County, New Brunswick. Unsuccessfully contested South Qu'Appelle, North-West Territory Assembly, 1891; elected 1894, and subsequently re-elected; became non-resident member of the Haultain-Ross Territorial Government, October, 1897, and held office later as Com-

missioner of Agriculture and Territorial Section and as Commissioner of Public Works; appointed Commissioner for the Territorial Government of Yukon, 1898, and first Lieutenant-Governor of Alberta, September 1, 1905; re-appointed for a second term, October 5, 1910. Liberal.

Premier of Alberta

SIFTON, Honourable Arthur Lewis, M.A., LL.B., D.C.L., K.C. Born in Middlesex County, Ontario, six miles from London, October 26, 1859. Son of late Hon. John W. Sifton, ex-Speaker of the Manitoba Assembly, and brother of Hon. Clifford Sifton; educated Wesley College, Winnipeg, and Victoria University, Cobourg. Married, 1882, Mary H. Deering; one son

and one daughter. Admitted to the Bar, Manitoba, 1883; first practised at Brandon, of the first council of which city he was elected a member in 1882; elected member of North-West Council, 1898; Commissioner of Public Works, 1901; Chief Justice North-West Territories, 1903; Chief Justice of Alberta, 1907; resigned to become Premier of Alberta, Minister of Public Works, and Provincial Treasurer, 1910; in 1912 withdrew from portfolio of Public Works to become Minister of Railways and Telephones; returned to power in general election, 1913. In 1911 was present at Coronation of King George V as guest of British Government. Liberal.



CANOEING, WABAMUN LAKE, ALBERTA.



PLOUGHING.

CIVIC GOVERNMENT MANITOBA

By CARLTON STUBBS



MANITOBA contains to-day 4 cities, 25 towns, 16 villages, and 94 rural municipalities. The cities consist of Winnipeg, Brandon, St. Boniface and Portage La

Prairie. According to the returns of municipal officers, the accuracy of which is not guaranteed by those responsible for the administration of the Municipal Act, these cities, towns, rural municipalities, and villages possessed a collective assessment amounting to \$4,082,005,509 and a debenture debt of \$37,298,589.

Before discussing the varying powers delegated to the different grades of municipalities, it may be well to show briefly how these communities are constituted.

Formation of New Corporations

Villages.—When the census returns of any locality show that it contains over 500 inhabitants sufficiently close together, a petition signed by not less than 75 resident freeholders may secure the issue of letters-patent from the Lieutenant-Governor in Council incorporating the freeholders and householders as a village corporation. The village so incorporated may not include an

area exceeding 640 acres, unless the population exceeds 2,000, when 160 acres may be added for every additional 1,000 inhabitants. The Lieutenant-Governor in Council possesses the power, however, to specify and determine the limits and extent of the village when for sanitary or other reasons some modification of the above clause may be necessary.

Towns.—When the census returns of any locality show that it contains over 1,500 inhabitants, a petition signed by not less than 150 resident freeholders and householders may secure from the Lieutenant-Governor in Council letters-patent incorporating the freeholders and householders of the locality as a town corporation. Such a town, however, may not occupy within the limits of incorporation an area of more than 640 acres, unless the population exceeds 2,000, when the town limits may be increased in the proportion of 160 acres for every additional 1,000 inhabitants. Villages containing more than 1,500 inhabitants may be erected into towns by proclamation of the Lieutenant-Governor in Council.

Cities.—When a town can be shown on census to contain over 10,000 inhabitants, the town may, by proclamation of the Lieutenant-Governor in Council, be erected into a city.

New towns and cities are divided into wards of not less than 200 inhabitants.

Constitution of Councils and Qualifications of Candidates for Offices

Municipal government is carried on in these centres by councils composed in the following manner :

Rural Municipalities.—The council of every rural municipality consists of the reeve and six or four councillors. The qualifications required for the office of reeve are residence in the municipality, or in the case of non-residence the expression in writing to the returning-officer of a willingness to accept office if elected, and the possession of real estate within the municipality rated on the assessment roll at the value of \$100 over and above all incumbrances. Qualification in the case of councillors is similar as regards the property clause, and embraces residence within the ward for which they are candidates.

Villages.—The council of every village consists of the mayor and four councillors. The qualifications for mayor and councillor are identical with those in force in the case of rural municipalities, except that the property qualification is raised to \$300.

Towns.—The council of every town

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consists of the mayor and two councillors for each ward, elected in alternate years, so that a form of continuous representation is secured. Qualifications for mayor embrace residence within the locality and the possession of property valued on the assessment roll of the municipality at \$500. The qualifications of councillors are identical with those for the office of mayor.

Cities.—The council of each city consists of the mayor and two aldermen for each ward. The qualifications for mayor and aldermen are the same as those obtaining in the case of towns for mayor and councillors.

Amongst those persons who are exempted or disqualified from holding office as members of the council of any municipal corporation may be mentioned judges, sheriffs, deputy-sheriffs, sheriff's bailiffs or constables, bailiffs of the County Court, deputy-clerks of the Crown, all clergymen and ministers of every denomination, any person holding personally, or through his wife, a licence to sell spirituous liquors, paid officers of the municipality, and persons who have been "convicted in any court of law within His Majesty's dominions of any indictable offence, upon conviction for which offence a person is liable to imprisonment for five years."

Qualification of Electors

The right to have their names placed upon the list of electors and to vote at municipal elections belongs to the following persons, male and female, of the full age of 21 years and subjects of His Majesty by birth or naturalization:

(a) Any person, whether resident in the municipality or not, having in his or her own right real property within the municipality, the assessable value of which is not less than \$100.

(b) Any person having in his or her own right the use and occupation, otherwise than as owner, of real property within the municipality having an assessable value of not less than \$200, or an annual rental value of not less than \$50, provided that he or she is residing within the municipality at the date of the final revision of the list of electors and has so resided for a period of six months before that date.

(c) Landowners' sons, in cases in which the property recorded upon the assessment roll is sufficient to qualify

them as electors after allowing for the amount necessary to qualify the parent.

The Municipal Act contains provisions ensuring the secrecy of the ballot.

Disputed Election

A municipal election may be disputed by an election petition presented by four or more persons who voted or had the right to vote, or by one of the candidates. These cases are heard in the first instance by the judge of the County Court for the judicial district in which the municipality is situated. Right of appeal lies to the Court of Appeal.

Borrowing Powers

A municipal council may borrow on promissory notes or agreements for the purpose of defraying current expenditure until such a time as the taxes levied can be collected. When taxes have not been levied the municipality may borrow to an amount not exceeding the taxes levied for the preceding year. Promissory notes issued for the purpose may be renewed by the council during the two succeeding years.

Councils of cities, towns, and rural municipalities may borrow money on debentures for the carrying out of certain specified public works, such as the construction or repair of a public road or wharf. They are further authorized by the terms of the Municipal Act to levy rates for the payment of these debts on the rateable property of the municipality. No city, town, or rural municipality may incur any further indebtedness except such as is payable within the municipal year.

Villages may issue debentures to the amount of not more than \$6,000 for the purpose of providing fire apparatus for the village or for the purpose of providing a system of waterworks for domestic and public use. Villages have no power to issue debentures for any other purpose. The indebtedness of a village is further limited by the fact that it may not borrow money for any purpose or incur any indebtedness except such as it has funds in hand to pay after all outstanding liabilities have been met; or except such as two-thirds of the levy for the year will meet after all other indebtedness has been provided for.

Every by-law for raising upon the credit of a municipality money not required for its ordinary expenditure, and not payable within the same municipal year, must receive the assent of the electors before it can come into force. This assent is said to be secured when the by-law receives the support of at least three-fifths of all qualified electors actually voting.

Debentures to be valid must be certified by the Municipal Commissioner. No debentures may be issued by a municipal corporation bearing a higher rate of interest than 7 per cent. per annum. Additional stability is given to municipal finance by a clause limiting the space of time during which loans may run. Except in the case of incorporated cities, loans and the obligations attaching to them must be discharged within 30 years. Again, the by-law authorizing the loan must specify both the amount to be raised annually for the payment of interest, and the sum, also to be raised annually, for the payment of the debt. This sum is to be sufficient, with estimated interest not exceeding 5 per cent., to discharge the debt within the stipulated period.

In the ordinary course no rural municipality may incur debts or issue debentures which would in the aggregate exceed an amount equal to 10 cents per acre upon all land not in the possession of the Crown (but including homesteaded and pre-empted land), situated in that part of the municipality affected by the by-law. When, however, the money which it is proposed to raise is to be used for permanent improvements, a rural municipality, after securing the approval of the Lieutenant-Governor in Council, may increase its indebtedness up to an amount equal to 25 cents per acre of such lands. The borrowing powers of rural municipalities are further limited by the stipulation that they shall not contract any debt which may have the effect of increasing the total indebtedness of the municipality to such an extent that the amount to be raised annually for all municipal purposes, including principal and interest upon loans, shall exceed a rate of 2 per cent. upon all the taxable property recorded upon the assessment roll. This rate, however, may be raised with the consent of the Lieutenant-Governor in Council to 3 per cent. when the proposed loan is to be used for permanent improvements,

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An additional check is kept upon municipal indebtedness by a provision compelling every council to transmit to the Municipal Commissioner annually a statement showing the debts of the corporation and specifying in regard to every debt the balance remaining due.

Taxation

The current expenses of municipalities are met by a rate of so much in the dollar levied upon the assessed value of property within the municipal limits. In rural municipalities and villages the council, on petition of two-thirds of the resident owners of real estate within the portion affected by the rate, may levy a special tax upon any part of the municipality to defray the cost of general improvements within it.

In cities and towns the rate to be levied in any year, in addition to what is required for the payment of interest on outstanding debentures and the amount required for a sinking-fund, may not exceed the sum of 1 cent on the dollar upon the actual value of all the real and personal property liable to assessment. Communities of 100 persons living on subdivided lots, but not incorporated, are entitled to have 50 per cent. of their taxes spent for public purposes from which they especially will derive benefit.

With certain specified exceptions, all lands and personal property—a term including goods and chattels and shares

and stocks of incorporated companies—are liable to municipal taxation. From amongst the exemptions the following may be named:

(a) Crown lands and lands held in trust for the public use of the Dominion or province.

(b) Lands held in trust for any tribe or body of Indians.

(c) Public schools, hospitals, and churches.

(d) Buildings and land occupied by or belonging to incorporated agricultural or horticultural societies.

(e) Burying grounds not exceeding 20 acres.

(f) Agricultural stock and produce held for shipment.

(g) Produce from land occupied as a farm or garden.

(h) Live stock and farming implements.

(i) Creameries and cheese factories.

Lands in rural municipalities improved for farming, stock raising, or gardening purposes are assessed at the value of unimproved land; but the value of improvements made for other purposes is added to the assessment.

Aids to Industries

Cities, towns, villages, and rural municipalities may exempt an industry for a period not exceeding 20 years. By-

laws passed for this purpose, however, must be submitted to the electors for approval. In the case of a city or town where the exemption does not exceed 60 per cent. of the assessed value of the industry and does not run for a greater period than 12 years, the assent of the rate-payers is not essential to the carrying out of the proposal. It is necessary, however, that the industry so exempted shall employ not fewer than 15 workmen for at least nine months in the year.

No council has the power to grant a monopoly in any branch of trade.

Special Charters and Municipal Ownership

The special charters under which Winnipeg and other cities are administered exempt these municipalities from certain restrictions imposed by the Municipal Act. Several of the smaller municipalities are also excluded from the limits imposed by the Act. In the main, however, municipal government is uniform throughout the province; councils of cities, towns, villages, and rural municipalities finding a common head in the Municipal Commissioner, who is a member of the Executive Council of Manitoba.

Municipal ownership is rapidly gaining favour throughout the province. In Winnipeg especially the advantages to be derived from the public ownership of public utilities are in evidence in many different directions.



SASKATCHEWAN

By J. N. BAYNE, DEPUTY-MINISTER OF MUNICIPAL AFFAIRS FOR THE PROVINCE OF SASKATCHEWAN

IN Saskatchewan a separate department of the Governmental service was created on November 1, 1908, for municipal control and jurisdiction. It is known as "The Department of Municipal Affairs," and has as its head a Minister who is a member of the Executive Council or the Provincial Cabinet. The deputy head, three municipal inspectors, and an inside staff of about 25 officials comprise the department, which deals with the organization, instruction, and general guidance of municipalities, both urban and rural.

Each of these municipal bodies is visited at least once a year by a municipal in-

spector, who, however, does not supplant nor take the place of the local auditor. The department's inspector deals with the general condition and conduct of the office, whereas it may take the form, on special occasions, of an actual investigation.

An approved set of records of accounting has been prepared and prescribed for each class of municipalities. Other systems are not allowed, so that Saskatchewan has a practical system of uniform municipal accounting.

The various municipal bodies of the province stood, on February, 1, 1913, as follows:

Four cities, 69 towns, 243 villages, and 290 rural municipalities.

Since the creation of the province of Saskatchewan, on September 1, 1905, only one city has been established,¹ although the population of the province has grown during the years 1906-13 from 257,763 to a conservative estimate of 600,000. The official census of June, 1911, gave the number as 492,432 souls. Thus it is seen that in this central prairie province the great majority of the population is living in the country areas and producing wealth

¹ Since this article was written the town of Weyburn has been erected into a city.—ED.

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from the soil. This is a condition which gives Saskatchewan stamina. Fortunately, conditions are not such that the people of the province are huddled together in crowded centres. The slum problem, which confronts so many older provinces, seems to be far removed from Saskatchewan's sphere.

Cities.—A population of 5,000 is required for a city, 500 for a town, and 100 for a village; while a rural municipality has an average area of nine townships, or, in other words, its dimensions are 18 miles long by 18 miles wide.

The government of a city is under the control of its council board, which consists of a mayor and not fewer than six nor more than 20 aldermen, all of whom are elected by popular vote. The mayor is elected annually and one-half the council board in each year, or, in other words, each alderman holds office for two years. The aldermen may be elected from the city at large or by wards, according to the desire of the majority of the people directly concerned.

"City commissioners" may be appointed by the council board, to which body they are responsible. These officials are entrusted with duties delegated to them by the aldermanic body. A city commissioner is usually a specialist in some line coming under the care of the city municipalities. Thus amongst the commissioners will usually be found a properly qualified engineer, who will give his attention to public works.

The governing powers of a city are wide. It may make "regulations and by-laws for the peace, order, good government, and welfare of the city, including regulations and by-laws respecting the erection and classification of buildings to be erected within the city or any part thereof, and for the construction, maintenance, and operation of ferries running within or within and without the city, and for the issue of licences and payment of licence fees in respect of any business, and for the inspecting and regulating of slaughter-houses, dairies, and other places outside the limits of the city from or through which food is brought for sale within the city, and making and enforcing building and sanitary regulations for the said slaughter-houses: provided that such by-laws shall not be contrary to the general law of the province and shall be passed bona fide in the interests of the city."

Taxes in a city are secured from assessment made on (1) lands, (2) businesses, (3) income, and (4) special franchises. It is interesting to note that buildings and improvements are assessed at not more than 60 per cent. of their actual value, while the land itself is assessed at its full value. Provision is likewise made which allows any city further to reduce the assessment on buildings and improvements by 15 per cent. in any one year; thus within four years the assessments on such buildings and improvements may be eliminated entirely. As a result the straight "land tax," or what is sometimes erroneously called "single tax," is possible within the senior urban municipal institutions of the province. It may be stated that at the present time practically all the cities of the province have reduced the assessments on buildings and improvements to about 30 per cent. of their actual value.

The stock-in-trade of a merchant is not assessed, but the taxes which he pays on his business are based on a rate levied on the square foot of floor space.

The people on any particular street may secure certain "local improvements" by agreeing to pay a certain percentage of their cost; thus water-mains, drains, sidewalks, and conveniences of a like nature can be procured earlier than might otherwise be the case by the residents of a street agreeing to have their land especially taxed for the purpose. Again, it is possible to have a "special local benefit assessment."

Cities may raise money for permanent improvements by the issuing of debentures which may cover a period of 40 years. For the purpose of a temporary loan a city may borrow on the credit of the taxes to be collected within any current year. A city may hypothecate or pledge its debentures in lieu of amounts to be advanced.

A police force in each city is possible, and may be governed by the police commission. Provision is also made whereby the members of the police force and fire brigades may be benefited by pensions or superannuation funds.

The police magistrate is jointly under the control of the Provincial Government and of the city which is contributing towards his stipend.

Sinking-fund trustees can be appointed to administer the sinking-fund of any city. As already intimated, the powers of a city

are wide, but no by-law which it passes may exist in contravention of any provincial by-law.

Any city in Saskatchewan may own and operate its own street railway system and its public utilities generally. Each city has its own municipal hospital, an institution in every case which does not restrict itself to city patients only.

Towns.—The council board of a town consists of a mayor, who holds office for one year, and six aldermen, each of whom is elected for a term of two years. Each member of the board is elected from the town at large.

What has been stated in connection with the assessment schemes of cities will likewise apply to towns. The Act governing the latter, however, is more explicit in outlining what the town may do and beyond which its jurisdiction ceases, in other words, the powers of a town are defined.

Villages.—These junior urban organizations have a council board of three members elected annually. Their assessments are very similar to those of towns and cities, although the business or floor-space tax is not allowed, neither can they raise funds under the "local improvement" or "frontage foot" scheme. Any village may issue under authority granted by the Minister of Municipal Affairs debentures for permanent improvements; but the permanent loan thus created must not extend over 15 years nor may the debt thus incurred be more than 10 per cent. of the real property as shown on the last revised assessment roll.

The council board of a village, when so requested by two-thirds of the resident electors, may pass a by-law exempting from taxation of any kind buildings and improvements. Several villages have taken advantage of this scheme, as it makes the non-resident ratepayer, who holds land for speculating purposes only and does not attempt to improve the same, share the expenses of the executive machinery of the village municipality equally with the man who improves his property.

Rural Municipalities.—These have an average area of nine townships, or 1,296 quarter-sections of 160 acres each. The general plan is varied where rivers, lakes, or other physical features make a deviation advisable. Each municipality is divided into six divisions or wards. A councillor is elected by popular vote from each of such divisions, while the reeve, who is chief

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official of the institution, is elected by popular vote from the municipality at large. The duties of the council board are many, but they pertain particularly to the improvement of local conditions from the standpoint of good roads, bridges, health, peace, order, and good government generally.

No rural municipality in Saskatchewan is allowed to bonus in any manner whatever any institution or enterprise. The province in this regard has benefited from the experience of older provinces and countries.

Taxes are levied on the land alone, while buildings and improvements are entirely free from assessment. No personal property whatever bears taxes, which means that the industrious farmer may build good houses and barns, may increase his flocks and herds and the equipment for his farm without having to pay any penalty whatever

as a result of his thrift. Thus it will be seen that the straight land tax has a firm hold on Saskatchewan as well as on other Western provinces.

A rural municipality may create a debenture loan with the consent of the electors. The said loan can be spread over a period not exceeding 20 years and must not represent a greater indebtedness than \$3,000 per township. The security of such an investment becomes apparent when it is remembered that each township consists of 144 quarter sections, one of which alone would be worth on an average more than \$3,000. The proceeds of the debenture loan must be expended upon permanent improvements. Many municipalities have taken advantage of the privilege, and many good permanent highways throughout the length and breadth of Saskatchewan have resulted.

The Board of Highway Commissioners,

to whom has been entrusted the expenditure of \$5,000,000 for good roads and modern highways, unites with the council boards of municipalities in giving them assistance and in deciding where the roads shall be made.

There are large areas throughout Saskatchewan which are sparsely settled and which have no local organization whatever. These are known as "local improvement districts" and are assessed direct by the Department of Municipal Affairs. The proceeds of such an assessment are expended upon roads, bridges, fire-guards, and the payment of wolf bounties within the unorganized district. These local improvement districts correspond with the provincial constituencies, excepting therefrom all municipal organizations of any kind. As a matter of course there are many provincial constituencies in the province which are completely organized.



ALBERTA

BY JOHN PERRIE, DEPUTY-MINISTER OF MUNICIPAL AFFAIRS FOR THE PROVINCE OF ALBERTA

WE have in this province five different forms of municipal organization, namely, local improvement districts, rural municipalities, villages, towns, and cities. For the purpose of organization into local improvement districts and rural municipalities the province is divided into fixed areas known as territorial units. These territorial units are 18 miles square, each containing nine townships. Where necessary the form and size of these units has been changed to fit in with the physical features of the country.

Each of these territorial units may be established a local improvement district or a rural municipality, according to the wishes of the resident electors, or if so desired, they need have no organization, and all taxes for road improvement purposes will be levied and collected by the Government, and all work in connection with improvements, such as roads and bridges, will be carried on by the Government. The most of the thickly settled areas have been organized as local improvement districts or as rural municipalities.

Local Improvement Districts.—The local

improvement district organization is what might be called a simplified form of municipal organization. It was first adopted many years ago by the Government of the North-West Territories in order to give a small and inexpensive measure of self-government to the better settled portions of the country. As the settlement grows and the country becomes older, these organizations will, no doubt, cease to exist, and the only organization will be organization as a rural municipality. Each local improvement district is divided into divisions or wards. Each division or ward usually contains an area of one and a half townships, and elects a councillor each year. These councillors form the governing body of the district, and carry on business under the provisions of the Local Improvement Act. Their powers are very limited, being concerned merely with the levying of a small tax and the expenditure of the revenue so raised upon the construction of roads and bridges, the granting of a little assistance to agriculture, and the payment of the running expenses of the district. They have no power to pass any by-laws, to issue any debentures, or to levy any

other tax except that mentioned. The head of this body is one of their number chosen by themselves at the first meeting of the year, and he is known as the chairman of the district. The assessment and collection of taxes and all clerical work is dealt with by an official appointed by the council, known as the secretary-treasurer of the district. The rate of taxation is fixed at so many cents on the acre, no account being taken of the different values of the lands taxed. Such taxation cannot exceed 5 cents per acre. The books of all local improvement districts are audited by auditors appointed by the Minister of Municipal Affairs.

Rural Municipalities.—Where the electors of these territorial units have so requested, they have been established as rural municipalities, and have authority to carry on business under the Rural Municipality Act. This Act gives them full municipal powers. The governing body of the municipality, as the Act stands at present, is vested in a council of five members. This Council is elected at large by the electors of the municipality. The head of the municipality is chosen

CIVIC GOVERNMENT

at the first meeting of the council, and is one of the members of that council. He is known as the reeve of the municipality. The books and records, levying of assessment, and collection of taxes are looked after by the secretary-treasurer, assessor, and auditor. The one official may act as secretary-treasurer and assessor. A rural municipality may deal with practically all affairs of a local nature through their power to pass by-laws dealing with matters of this kind. They may, for example, deal with such matters as public health, nuisance grounds, cemeteries, hospitals, aid to the needy, planting of trees, light weight and short measures, cruelty to animals, dogs, wolf bounty, prairie fires, hawkers, pedlars, regulating the use of bridges and highways, extermination of animals that impede or injure agriculture, acquiring of land for public purposes, destruction of noxious weeds, and the restraining of animals running at large. They may also pass money by-laws and issue debentures. All money by-laws must, however, be referred to the electors, and two-thirds of the electors voting on a money by-law must vote in favour of it before it can become law. Debentures may be issued to the amount of 5 per cent. of the assessed value of the land within the boundaries of the municipality. A rural municipality may, of course, spend money in connection with the different local matters with which they are authorized to deal. The rate of taxation for municipal purposes is limited to 1 per cent. or ten mills on the dollar. An additional rate may be levied to meet debentures if necessary.

Rural municipalities are also required to levy school taxes for all rural school districts within their boundaries, the rate levied in each school district being decided by the estimate of expenditure sent in by the school board of the district. The rural municipality does not deal in any way with the affairs of the school districts; they simply levy and collect the taxes for these districts, the expenditure of this money and all other work in connection with the school district being dealt with by the school board.

It may be noted that rural municipalities are prohibited from levying taxes on anything except land, and the land is to be valued without regard to the improvements placed upon it. They have power to grant a rebate of 25 per cent. on

taxes levied on lands cultivated and cropped during the previous year. They are prohibited from giving bonuses of any kind.

Any municipality may unite with any 19 or more municipalities to form a hail insurance district. The question as to whether or not a municipality should be included in such district, has, of course, to be voted upon by the electors. If a majority are in favour of organization, the Department of Municipal Affairs is so advised, and a district is established by that department as soon as 20 or more rural municipalities have expressed their wish to be formed into a hail insurance district. The affairs of a hail insurance district are looked after by the Reeves of the different municipalities included. These Reeves constitute what is known as the board of the district, and make all arrangements for the levying of a hail tax, inspection of losses, and payment of claims; the rate of taxation to be levied for this purpose being fixed by an estimate to be made by the board as to the possible amount of the losses by hail that will have to be met during the year. The hail tax is required to be levied on all assessable land by each municipality included in the hail district along with the municipal and school taxes.

While rural municipalities have authority to collect certain licence fees, their principal source of revenue is taxation. The taxes are levied according to the actual cash value of the lands in the municipality without regard to the value of the improvements made on these lands by the expenditure of capital or labour.

The books, records, and audits of each rural municipality are subject to inspection by departmental inspectors.

Villages.—Where there is any centre of population containing 25 occupied dwelling-houses within an area not greater than 640 acres, such centre may be established a village under the Village Act. The governing body of the village is made up of the council, composed of three members; the head of this body being the chairman, who is a member of the council and chosen by themselves. Under our present Village Act, a village is not a corporate body and has only very limited powers, such powers being set forth in the Act under which they are administered. They have no power to pass by-laws, and

their work is practically limited to the levying of a tax not exceeding 2 cents on the dollar, such tax being required to be levied on the actual value of the lands in the village exclusive of the improvements thereon. The money derived from this tax is required to be spent on improvements in the village. A village has no authority to pass a money by-law, but it may borrow a certain sum of money by debentures after obtaining authority from the Minister of Municipal Affairs to do so. The amount borrowed is limited to 10 per cent. of the assessed value of the land in the village, according to the last revised assessment roll, but in no case can a village borrow more than \$4,000, even if the 10 per cent. of the assessed value of the lands in the village exceeds that amount. Authority to borrow this amount can only be obtained by submitting to the department a bona fide petition from two-thirds of the resident ratepayers accompanied by a resolution passed by the council. Such petition and resolution are required to set forth the purpose for which the money is to be used. The books and records of the village and the work of assessment and collection of taxes are looked after by an official known as the secretary-treasurer of the village. This official is appointed by the council of the village.

Under our present Village Act, villages have no authority to levy or collect school taxes for the village school districts. These taxes are levied and collected by the school board of the district, and this board has authority to levy taxes on personal property and improvements as well as on the land.

A new Village Act is likely to come into force in this province at an early date. This Act will no doubt give the villagers more power than they have at the present time. Under the new Act they will be corporate bodies, who will have power to pass by-laws dealing with practically all matters of a local nature.

Towns.—When the population of a village reaches 700, it may be established a town and be administered under the Town Act. The governing body of a town is the council, which is made up of six councillors and the mayor. Our Town Act gives all towns usual municipal powers. It might be well to note, however, that some of the distinctive features of our Town Act are rather different from those in force in some of

THE PRAIRIE PROVINCES OF CANADA

the other provinces in the Dominion. For example, our Act requires that all taxes must be derived from an assessment levied on the land within the boundaries of the town, such assessment to be levied according to the actual cash value of the land without regard to any improvements made thereon by the expenditure of capital or labour. Income, personal property, and improvements are entirely exempt from taxation. It will also be noted that our towns have no authority to grant bonuses.

There is also provision whereby the books of the different towns are inspected by the inspectors of the Department of Municipal Affairs. Their forms of records are authorized by that department, and they may have their money by-laws certified to by the minister. When a money by-law is certified to by the

Minister of Municipal Affairs, the validity of such by-law and of every debenture issued under it cannot thereafter be open to question in any court.

All the towns in the province come under the provisions of the Tax Act except the towns of Red Deer and Cardston. These two towns were established under old special charters under which their affairs are administered.

Cities.—No City Act exists in Alberta. Each city in the province was established by a special charter, by the terms of which its affairs are conducted. This being the case, the method of carrying on business differs in different cities. There is, however, one general trend in connection with the work of all cities in the province which is worthy of note, and that is that where they have not already exempted personal property, income, and improve-

ments from taxation, they are gradually doing so. They are also evidently strongly inclined to own their own utilities and not to give any franchises. There is also a tendency to do away with the giving of bonuses, with the exception probably of granting a free site to industrial concerns.

Finally, by way of summary, it may be stated that the distinctive features of municipal government in Alberta are: the doing away with the levying of taxes on anything except the land, assessment being levied on the land according to its actual cash value without regard to any improvements that have been made upon it; the tendency to do away with the granting of bonuses in any shape, and the strong desire of each municipality to own its own public utilities and not to grant any franchises.



A DOUBLE DISC AT WORK ON A SASKATCHEWAN FARM.



SECURITY BANK BUILDING, WEYBURN.

FINANCE

PROVINCIAL FINANCE



UNTIL the extension of its boundaries in 1912, the financial relationship of Manitoba to the Dominion Government differed in many respects from those of its sister provinces, Saskatchewan and Alberta. With the increase in its area, however, there came into force a reconstructed scale of payments, which in effect place the three provinces upon an equal financial basis.

The most noteworthy feature of the finance of these provinces is undoubtedly the fact that their greatest and most valuable asset, their land, is not, and never has been, within their own control. In this respect these provinces differ from the other States of the Dominion. British Columbia, for instance, may raise revenue from its land, its forests, and other resources. But the land of Manitoba, Saskatchewan, and Alberta is administered

by the Dominion Government; that is, money derived from the sale or lease of public lands within the Prairie Provinces flows not into the provincial coffers to be expended within the province but into the Dominion Treasury, there to form part of the sums required by the Central Government for the purposes of the entire country.

As compensation for the loss of provincial revenue caused by this arrangement, the Dominion Government, on the formation of Manitoba in 1870 and of Saskatchewan and Alberta in 1905, pledged itself to pay over certain sums annually, to be expended by the Provincial Governments in such directions as they thought good. These terms do not stand to-day in the shape in which they were originally outlined. The population of the provinces has increased at a pace quite unanticipated when the agreement was entered into, and in addition to the modification necessitated by this fact, the provinces themselves by frequent agitation have induced the Dominion Govern-

ment to grant what is locally known as "better terms."

The principal sums received to-day by the provinces are paid by the Dominion half-yearly in advance, as follows:

Manitoba

(a) A fixed sum is calculated upon a population basis. When, as at present, the population of the province is 400,000, but does not exceed 800,000, the fixed amount paid is \$190,000. When the population is 800,000 but does not exceed 1,500,000, the sum to be paid under this heading will rise to \$220,000. When the population exceeds 1,500,000 a sum of \$240,000 will become payable.

(b) An additional grant is calculated upon a *per capita* basis, the sum paid being 80 cents per head of the population up to the number of 2,500,000. When the population exceeds that figure the excess will be calculated at 60 cents per head.

(c) Inasmuch as the province was not in

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debt at the time it was established, it receives from the Dominion Government annually the sum of \$381,584.19, which is the equivalent of interest at the rate of 5 per cent. per annum on the sum of \$7,631,683.85; this sum, again, representing the difference between a principal sum of \$8,107,500 and the sum of \$475,816.15 hitherto advanced by the Government to the province for provincial purposes.

(d) The province receives a grant based upon the population of the province as ascertained by the last census. The sum payable until the population reaches 800,000 is \$562,500. Thereafter, until the population reaches 1,200,000, the sum payable is \$750,000. When the population exceeds 1,200,000 the sum to be paid will amount to \$1,125,000.

(e) An additional allowance amounting to \$201,723.57 was paid, one-half on July 1, 1912, and one-half on July 1, 1913. This sum, voted "to assist in providing for the construction of necessary public buildings," represents the difference between sums already voted for that purpose to the provinces of Alberta and Saskatchewan and those received to date by the province of Manitoba. It is, in fact, a grant designed to level up the financial assistance received by the three provinces.

(f) The Dominion pays to the province a sum equivalent to interest at the rate of 5 per cent. upon the amounts secured by the sale of lands set apart as "school lands."

Alberta and Saskatchewan

Alberta and Saskatchewan receive annually from the Dominion Government certain sums paid half-yearly in advance as under:

(a) A fixed sum is calculated upon a population basis. When, as at present, the population of the province is 400,000 but does not exceed 800,000, the fixed amount paid is \$190,000. When the population is 800,000 but does not exceed 1,500,000, the sum to be paid under this heading will rise to \$220,000. When the population exceeds 1,500,000 a sum of \$240,000 will become payable.

(b) An additional grant is calculated upon a *per capita* basis, the sum paid being 80 cents per head of the population up to the number of 2,500,000. When the population exceeds that figure the excess will be calculated at 60 cents per head.

(c) Inasmuch as these provinces were not in debt at the time they were established,

they receive from the Dominion Government annually the sum of \$405,375, which is the equivalent of interest at the rate of 5 per cent. per annum on the sum of \$8,107,500.

(d) The provinces receive a grant based upon their population as ascertained by the last census. The sum payable until the population reaches 800,000 is \$562,500. Thereafter, until the population reaches 1,200,000, the sum payable is \$750,000. When the population exceeds 1,200,000 the sum to be paid will amount to \$1,125,000.

Alberta and Saskatchewan also receive a school lands allowance similar to that paid by the Dominion to the Province of Manitoba.

In addition to the large sums granted under different headings by the Dominion, the provinces raise a certain amount of revenue within their own frontiers. In the following table will be found some of the main headings under which local revenue is derived and the amount collected during the last fiscal year.

MANITOBA.

Fines	\$27,214.36
County Court fees ...	23,281.50
Law fees	21,362.30
Land titles	294,105.60
Liquor licences ...	152,038.10

(Liquor licences vary in amount, the sum paid being calculated upon the number of bar tenders employed. The average amount in country districts is about \$150. Within the large cities as much as \$2,000 is sometimes paid for a licence.)

Marriage licences ...	\$6,600.00
Succession duties ...	343,513.33
Corporation tax ...	115,092.76

(This tax is paid by all companies registered within the province.)

Railway tax	\$146,683.36
Automobile licences ...	20,000.00
Government telegraph and telephones ...	1,373,030.41

SASKATCHEWAN.

Succession duties ...	\$33,859.24
Land Titles Act ...	351,701.28
Liquor licences ...	142,288.67
Fines and forfeitures	25,100.67
Sale of law stamps ...	122,979.38
Automobile licences ...	13,040.00
Companies' incorporation fees ...	23,166.00

Corporation Taxation

Act	\$62,627.87
Railways tax	64,224.00
Revenue from Government telephones ...	379,918.60

ALBERTA.

Railway taxes	\$68,490.51
Corporation taxation...	65,110.56
Automobile licences ...	3,524.00
Companies' incorporation fees	33,833.00
Succession duties ...	30,871.00
Liquor licences	92,893.00
Sales of butter	125,457.37
Government telephones	506,830.18
Land Titles Office, general fees ...	239,216.45

The most recent figures (available in August, 1913) dealing with provincial finance are, in the case of Manitoba, those for the 11 months ending November 30, 1912, in the case of Saskatchewan for the 12 months ending February 29, 1912, and in the case of Alberta for the 12 months ending December 31, 1911. Manitoba having changed the conclusion of its fiscal year from December 31st to November 30th, the most recent accounts of this province cover the space only of 11 months.

The finance of the provinces being conducted on similar lines, it will be unnecessary to give the three provincial balance sheets in detail. We give below, however, a digest of the most recent report, that of Manitoba, from which, with other particulars already given, the main tenor of provincial finance within the Prairie Provinces will be readily seen.

CONSOLIDATED REVENUE FUNDS.

Dominion of Canada—	Dollars.
Subsidy	3,383,481.50
Schools Land Fund ...	122,693.63
Department of Attorney-General—	
Fines	27,214.36
County Court fees ...	23,281.50
Law fees	21,362.30
Land titles, general fees	294,005.60
Liquor licences	152,038.10
Department of Agriculture and Immigration—	
Fees	21,218.15
Marriage licences...	6,600.00
Agricultural College fees	15,668.09

FINANCE

		Dollars.			Dollars.	EXPENDITURE FOR ELEVEN MONTHS ENDING NOVEMBER 30, 1912.	
Department of Education—			Insurance Act fees		9,836.32	Legislation—	
Normal and Model School			Fire prevention		7,704.83	Dollars.	
fees		28,413.67	Corporation tax		115,092.76	Members	
Legislation—			Railway tax		146,683.36	Salaries	
Private Bills		8,500.00	Refunds		714.72	Expenses	
Department of Provincial Sec-			Sundry revenue		11,026.29	Audit Office	
retary—			Land Titles Assurance			Library and Museum—	
Fees		89,786.35	Fund — Revenue Ac-			Salaries	
Manitoba <i>Gazette</i>		15,939.45	count		20 000.00	Expenses	
Sale of Statutes		789.13	Department of Municipal Com-			Office of King's Printer—	
Department of Provincial			missioner—			Salaries	
Lands—			Automobile licences		20,000 00	Office expenses	
Provincial lands		400,013.54	Department of Telegraphs			Printing and binding	
Department of Public Works—			and Telephones —			(contracts)	
Support of insane		128,744.70	Rentals and tolls		1,317,196.40	Revision of lists of	
Support of deaf and dumb		8,037.35	Refunds on operation, &c.		55,894.01	electors	
Support of incurables		10,784.60	Open Ledger Accounts		96,421.07	Executive Council—	
Industrial Training School		6,368.20	Trust Accounts—			Salaries	
Public institutions—Re-			Municipal Commissioners'			Expenses	
venue		41,417.36	Account and various			Miscellaneous	
Manitoba Grain Elevators			other funds		2,779,115.27	Treasury Department—	
Commission		93,924.63	Court of King's Bench		166,843.47	Salaries	
Treasury Department—						Office expenses	
Interest		98,721.01			\$12,427,297.72	Grants	
Succession duties... ..		343,523.33					

DEBENTURES AND STOCK OF THE PROVINCE OF MANITOBA ISSUED AND OUTSTANDING.

Purpose of Issue.	Date of Issue.	When Due.	Where Payable.	Value in Currency.	Value Sterling.	Rate.
Public expenses	May 1, 1888	July 1, 1923	London, England	\$1,498,933.33	£308,000	5
"	Dec. 30, 1893	Nov. 1, 1928	"	997,666.66	205,000	4
"	Nov. 1, 1900	Nov. 1, 1930	Montreal, Quebec	300,000.00	—	4
"	"	"	Chicago, U.S.A.	200,000.00	—	4
Telephone construction	July 1, 1907	July 1, 1947	Montreal or London	1,000,000.00	—	4
Purchase Tel. system	"	"	"	3,399,853.33	698,600	4
Telephone construction	July 1, 1909	Jan. 1, 1949	"	499,806.67	102,700	4
Judicial Buildings, E.J.D.	"	"	"	199,867.68	—	—
" W.J.D.	"	"	"	49,966.92	53,800	4
" N.J.D.	"	"	"	11,992.06	—	—
Telephone construction	May 1, 1910	May 1, 1950	London, England	250,000.00	—	—
D.D. No. 2	"	"	"	25,000.00	—	—
" 8	"	"	"	577,000.00	—	—
" 18	"	"	"	48,000.00	—	—
" 19	"	"	"	380,000.00	—	—
Telephone construction	"	"	"	2,440,666.66	1,000,000	4
Grain elevator construction	"	"	"	1,000,000.00	—	—
D.D. No. 9	"	"	"	12,000.00	—	—
" 12	"	"	"	18,000.00	—	—
" 14	"	"	"	16,000.00	—	—
Gaol, E.J.D.	"	"	"	100,000.00	—	—
Telephone construction	May 1, 1911	"	"	1,825,000.00	375,000	4
Retiring Treasury Bills	May 5, 1912	"	"	1,460,000.00	—	—
Judicial Buildings, E.J.D.	"	"	"	900,000.00	—	—
D.D. No. 5	"	"	"	12,000.00	540,000	4
" 8	"	"	"	222,000.00	—	—
" 9	"	"	"	34,000.00	—	—
Telephone purchase	Sept. 1, 1908	Sept. 1, 1928	Montreal, Quebec	30,000.00	—	4
"	July 1, 1908	July 1, 1928	Waskada	40,000.00	—	4
"	April 1, 1910	April 1, 1930	"	10,000.00	—	4
"	Sept. 1, 1898	Sept. 1, 1918	Winnipeg	6,000.00	—	4
"	May 18, 1908	July 1, 1928	Montreal, Quebec	8,000.00	—	4
"	Oct. 6, 1908	"	"	40,000.00	—	4
"	Sept. 19, 1908	"	"	25,000.00	—	4
"	July 1, 1909	"	"	13,000.00	—	4
"	Jan. 1, 1911	"	"	5,000.00	—	4
Railway aid	Oct. 1, 1900	Oct. 1, 1930	Winnipeg	349,000.00	—	4

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	Dollars.		Dollars.
Miscellaneous	55,560.03	Immigration	41,511.81
Railway aid bonus ...	10,000.00	Grants	125,528.00
Relief to City of Regina ...	10,000.00	Miscellaneous	15,913.74
Olympic Games grant ...	300.00	Department of Attorney-General	434,480.15
Specially authorized ...	462,498.35	Department of Provincial Lands	13,423.82
Provincial Secretary's Department—		Railway Commissioner's Department	733.35
Salaries	9,855.54	Department of Telegraphs and Telephones	1,202,422.83
Office expenses	2,485.85	Department of Public Works	1,057,365.20
Department of Education—		Department of Municipal Commissioner	3,766.20
Salaries	13,448.49	Open Ledger Accounts	178,988.10
Office expenses	7,933.56	Capital Account	1,682,576.16
Training schools	44,643.12	Trust Account	2,529,836.52
Miscellaneous	94,546.91	Court of King's Bench	144,273.26
Grants	403,381.54		
Miscellaneous grants ...	605.00		
Department of Agriculture and Immigration—			
Salaries	10,121.67		
Office expenses	1,287.51		
Agriculture and statistics ...	71,646.99		
Agricultural College ...	76,915.69		

the debentures and stock shown in the table on p. 63.

Outstanding debts of the province of Saskatchewan, including the issue of £1,000,000 in debentures made in April, 1913, amount to £3,194,091 15s. 7d. The indebtedness of the sister province of Alberta includes sums to the amount of £411,000 due June 1, 1938; £1,000,000 due November 1, 1922, and £1,500,000 due December 30, 1913. Interest is paid upon these sums at the rate of 4, 4, and 5½ per cent. respectively.

It will have been seen that the finances of the Prairie Provinces are necessarily extremely restricted in their scope. Their resources are to a considerable extent derived from local sources; their expenditure is limited mainly to parochial matters within the provincial boundaries; and their greatest asset is, by the terms of the Alberta, Saskatchewan, and kindred Acts, withdrawn from the purview of those responsible for the provincial revenues.



BANKING

IT would probably be a difficult task to discover in adjoining countries, linked by the ties of a common language and an extensive commercial intimacy, banking systems more utterly dissimilar than those of Canada and the United States. In Canada banking is conducted by a few banks over a vast area; in the United States by many banks, each within a circumscribed district.

In Canada banking operations are severely restricted by Statute; in the United States more is left to the discretion of the directors. Of these widely divergent systems, that of the younger country is indisputably the better. From the head office of a Canadian bank capital flows easily through one or more branch offices to any part of the Dominion at the moment in need of it. Beyond the International boundary, on the other hand, capital is to some extent confined, the banks from the purely local nature of their business being under the necessity of investing within the district in which they trade, and this quite apart from the fact that money may be more urgently required elsewhere.

In short, money more readily finds its own level through the system of branch

banks obtaining in Canada than it possibly can do in a country in which artificial boundaries are everywhere erected to impede its flow.

In Canada the operations of the banking houses are subject to certain hard and fast limitations imposed by the Dominion Legislature, which, through the Minister of Finance, preserves the most intimate contact with the affairs of the banks themselves. As recently as May, 1913, this system has been slightly amended by the Act known as the Bank Act.

The provisions of this Act control and define the entire system of banking in Canada.

A bank is required to hold in Dominion notes not less than 40 per cent. of its cash reserve in Canada. It may issue its own notes for \$5 or for sums that are multiples of \$5 to the extent of:

- (a) The amount of its unimpaired paid-up capital; and
- (b) The amount of current gold coin and of Dominion notes held for it in the Central Gold Reserve.

The Central Gold Reserve is administered by four trustees, three of whom are appointed

by the Canadian Bankers' Association, and a fourth by the Minister of Finance. These trustees receive in gold or Dominion notes such sums as the bank may from time to time deposit with them. The amounts thus deposited are inspected and audited twice annually by the Minister of Finance.

Should the bank become insolvent, the amount held for it in the Central Reserve is paid over to the official liquidator, who applies it in redeeming any notes of the bank in circulation. It will be seen, therefore, that the failure of a Canadian bank would not necessarily affect the face value of its notes still in circulation.

During the season of moving the crops—that is, from the first day of September to the last day of February following—the issue of notes may be increased beyond the amount already defined to a sum not exceeding 15 per cent. of the combined unimpaired paid-up capital and rest or reserve fund of the bank as stated in the official returns for the preceding month. In these circumstances the bank pays to the Minister of Finance interest on the amount of the excess at a rate not exceeding 5 per cent.

Banks incorporated after the passing of



1. DOMINION BANK, CALGARY. 2. THE BANK OF MONTREAL, WINNIPEG.
3. CANADIAN BANK OF COMMERCE, RED DEER, ALBERTA. 4. CANADIAN BANK OF COMMERCE, WINNIPEG.

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this Act are required to have a capital stock of not less than \$500,000, divided into shares of \$100 each. No bank, however, may commence the business of banking before it has received a certificate from the Treasury Board authorizing it to do so. A majority of the directors must be natural born or naturalized British subjects and domiciled in Canada.

It may be interesting at this point to define some of the more noticeable matters with which the bank is permitted, and some of those with which it is not permitted, to interest itself :

A bank may—

(a) Open branches, agencies, and offices.
(b) Transact business as a dealer in gold and silver coin and bullion.

(c) Deal in, discount, and make advances upon the security of bills of exchange, promissory notes, and other negotiable securities, or the stock and debentures of municipal and other corporations, whether secured by mortgage or otherwise, or Dominion, Provincial, or British, foreign, and other public securities.

(d) Carry on a general banking business.

(e) Lend money upon the security of standing timber and the right or licence to cut or remove timber.

(f) May hold immovable property for its own use and occupation and the management of its business.

(g) May lend money to any wholesale purchaser or shipper or dealer in products of agriculture, the forest, quarry, and mine, or the sea, lakes, and rivers.

(h) May lend money to a farmer upon the security of his threshed grain grown upon the farm.

A bank may not—

(a) Buy or sell goods or merchandise, or engage in any trade or business whatsoever.

(b) Deal in or make advances upon the security of any share of its own capital stock or the stock of any other bank.

(c) Lend money upon the security, mortgage, or hypothecation of any lands, tenements, or immovable property, or of any ships, or upon the security of goods, wares, and merchandise.

(d) May not stipulate for or exact any rate of interest exceeding 7 per cent. per annum.

We may add that whilst a bank may purchase lands or real or immovable property under certain clearly defined conditions, such as land belonging to a debtor to the bank offered for sale by order of a court, it may not hold real or immovable property, however acquired, except such as is required for its own use, for any period exceeding seven years.

The security afforded by the limits imposed upon the circulation of notes has already been noticed. It may be added, however, as affording additional security to the creditors of a defaulting bank, that when the property and assets of such a bank are insufficient to meet its liabilities, each shareholder becomes

liable for the deficiency to an amount equal to the par value of his shares in addition to any amount not paid upon them.

A bank is required to make to the Minister of Finance at stated periods a number of returns covering every department of its operations; its capital stock may not be reduced save with the consent of the Treasury Board, and at no time may it reduce its capital below the amount of \$250,000 of paid-up stock. Finally, all banking institutions in Canada come within the scope of the Bank Act. Such terms as "bank," "savings bank," "banking house," "banking institution," or equivalent terms, may not be used, under heavy penalty, in the description of any business whose capital, constitution, and methods do not fulfil the requirements of the Act.

The following table shows the bank clearings for some of the principal cities of the Prairie Provinces. For the purposes of comparison, figures have been added referring to Montreal and Vancouver.

	1911.	1912
	\$	\$
Montreal ...	2,368,491,239	2,844,368,426
Winnipeg ...	1,172,762,142	1,537,817,524
Vancouver	543,484,354	645,118,877
Calgary ...	218,681,921	275,492,303
Edmonton	121,447,237	220,727,617
Regina ...	73,032,088	115,727,647
Brandon ...	29,430,274	32,875,875
Lethbridge	28,818,693	33,485,947
Saskatoon ...	60,557,752	115,898,467



BRITISH AND AMERICAN CAPITAL

By C. W. ROWLEY, MANAGER, CANADIAN BANK OF COMMERCE, WINNIPEG

INDUSTRIES in Canada have in recent years progressed at a pace that has necessitated constant and large demands upon the money markets of Europe, and there is no probability that Canada will be able to finance its own activities for very many years to come. Every acre of land placed under cultivation requires capital, and as yet the full resources of Canada can scarcely be said to have been more than tapped. Money, however, of

late years has not been accessible in Europe on the large scale upon which it is required. Loans, if they are to be successfully floated, must offer to-day a higher rate of interest than was the case four or five years ago.

It is this state of affairs that has led many Canadian financiers to pay serious attention to the great money market which exists upon the other side of the International boundary. American capital

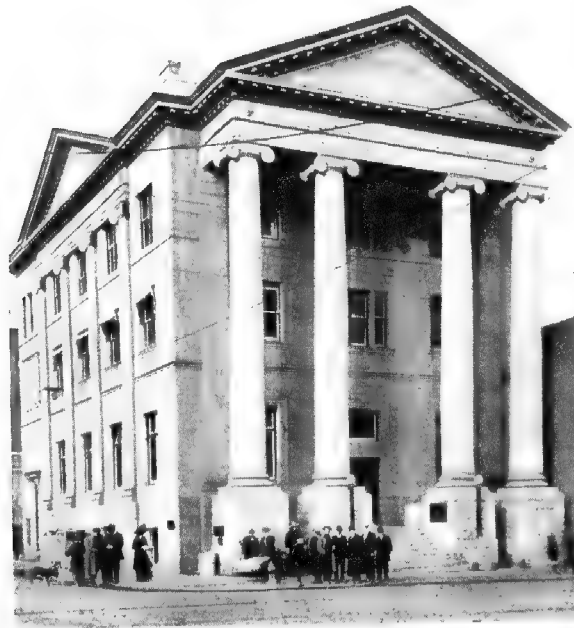
is close at hand; it is ever ready to interest itself in Canadian ventures and it will frequently show an adaptability which is entirely foreign to the London money market. As a recent instance of this tendency may be cited a loan for \$2,000,000 which was issued by Toronto and which was successfully floated in Boston in February, 1913. Again, Vancouver in 1913 floated in New York a loan for over \$1,000,000. In this case it was expressly

FINANCE

stipulated that the loan should not be offered in London. In conjunction with the great movements of finance should be considered the lesser investments which are constantly being made by American capitalists in Canadian trust and mortgage companies and in connection with various branches of the grain industry. Money is flowing into the Dominion from the United States at a rate which is scarcely realized even in Canada. Scarcely a day passes upon which the managers of Canadian banks are not consulted by

citizens of the United States on the subject of Canadian investments of one description or another, and this movement is likely to grow. An explanation of this state of affairs is readily offered by the financial conditions now obtaining in the United States. But a few years since the Eastern States financed the Western. To-day, however, the Western States are themselves producing surplus capital for which a market is required. In 1911 the state of Nebraska, to take a single instance, raised a crop valued at \$200,000,000—of

this sum, perhaps one-half was available for investment. In New York money is cheap, the rate offered being about $2\frac{1}{2}$ to 3 per cent. In Canada, on the other hand, a rate of from 6 to 7 per cent. can be obtained. For this reason capital from the Western States tends to flow into the Dominion rather than to the Eastern States. The ultimate result of this movement, from which we are as yet too far removed to speak definitely, is one which deserves the serious consideration of British financiers.



IMPERIAL BANK, EDMONTON.



MOOSE JAW IN 1884.

LAW AND LEGAL PROCEDURE

By GEORGE W. PATERSON, MASTER AND REFEREE IN CHAMBERS, MANITOBA



THE laws of England as they stood at the respective dates of the creation of the provinces respectively were by statute adopted as the laws of the respective provinces "so far as the same can be made applicable to matters relating to property and civil rights in the province," and are therefore the foundation upon which the present superstructures of the law in the respective provinces have been erected.

For Manitoba the date referred to is July 15, 1870, and for the other provinces the date is January 1, 1808. Any changes in the laws of England made since these dates respectively would, of course, have no effect in the provinces. Under the provisions of the British North America Act, 1867, the Legislature of each province may exclusively make laws respecting the administration of justice in the province, including the constitution, maintenance, and organization of provincial courts both of civil and criminal jurisdiction, including procedure in civil, but not in criminal matters, and the respective Legislatures have accordingly created courts of superior and inferior jurisdiction as follows :

Constitution of the Courts

Manitoba.—County Courts for the respective judicial divisions, about 40 in number, into which the province is divided, having jurisdiction in civil cases of claims or demands not exceeding \$500, but not in actions for gambling debts or for intoxicating liquors consumed in a tavern, hotel, saloon, or alchouse, or for promissory notes given for such debts, or for the recovery of land, or for malicious prosecution, libel, slander, criminal conversation, seduction, or breach of promise of marriage.

These courts are presided over by County Court judges, one or more for each of the five judicial districts into which the province is divided for superior court purposes, so that each judge presides over a number of such courts in his district, and resides at the judicial centre of it.

The pleadings are as simple as possible, being limited to the summons and dispute note, and the costs are never heavy.

The Court of King's Bench, a superior court both of law and equity, having similar jurisdiction to that of the High Court of Justice in England over all causes and matters, both civil and criminal, but no appellate jurisdiction. It is presided over by a Chief Justice and five puisne judges, all residing in Winnipeg, but taking turns in holding sittings of the court for the trial

of cases in the outside judicial districts at stated times. There are offices of this court at these outside points in which actions may be commenced and all proceedings, except appeals, carried on to their conclusion.

The Court of Appeal, composed of a Chief Justice and four other judges, having jurisdictions in appeal from the Court of King's Bench or a judge thereof and from the County Courts. This court sits during four terms each year, each lasting two weeks, for hearing appeals, and may appoint special sittings in any interim if deemed necessary.

Saskatchewan.—The Supreme Court, having both original and appellate jurisdiction over all causes and matters both civil and criminal. It is presided over by a Chief Justice and four other judges. Trials of actions take place before single judges at Regina, the capital of the province, and also at the various centres of the eight districts into which for judicial purposes the province is divided. Appeals are heard by the full court at Regina.

The district courts, one for each of the eight districts, presided over by district court judges residing at the respective district centres, and having practically the same jurisdiction as the County Courts of Manitoba. Judgments of these courts

LAW AND LEGAL PROCEDURE

are subject to appeal to the Supreme Court at Regina.

Alberta.—The courts of this province are in almost all respects similar to those of Saskatchewan, but the jurisdiction of the district courts has been recently extended to claims and demands in civil cases amounting to \$600, whereas the limit is \$500 in the other provinces.

All the above judges in all the provinces are appointed and their salaries paid by the Dominion Government, as provided for by the British North America Act, 1867.

Legislation

It will not be possible within the limits prescribed for this paper to set forth more than an outline of the special legislation in the three provinces upon the more important branches of the law under the respective headings which follow. For further brevity I will omit references to several important branches of the law, such as bills of sale and chattel mortgages, whenever the Provincial Legislation differs only slightly from the laws in force in England upon the same subject matters. Unless specially pointed out it may be taken for granted that the law under each heading is substantially the same in all three provinces.

Administration of Estates.—Lands are treated, as regards descent, the same as chattels real and pass to the executor or administrator of the person dying seized as personal estate. In cases of intestacy the whole estate, real and personal, goes to the widow, if there be one, and to the children in the proportion of one-third to the widow and two-thirds divided equally among the children. Widows have no dower and widowers no "tenancy by the curtesy." Primogeniture does not exist, and there are few, if any, entailed estates, though estates *tort* are not abolished by any statute.

Bankruptcy and Insolvency.—There is no bankruptcy law strictly so called, because this subject is one of the matters exclusively assigned to the Dominion Parliament, and that body long since repealed the bankruptcy laws that were formerly in force in Canada. There is, therefore, no way in which a bankrupt can make a compromise with his creditors and get a discharge from his debts without the consent of every creditor. There is, however, a statute called the Assignments Act, under which a debtor may voluntarily transfer all his assets to a trustee for rateable distribution among

his creditors. This statute contains very stringent clauses against any creditor obtaining a preference or priority over other creditors by any act of the debtor within 60 days prior to the date of the assignment, also against fraudulent conveyances by the debtor at any time, and the Statute of Elizabeth, Chap. 13, is still in force.

Bills, Notes, and Cheques.—The law on these matters is the same as in the rest of the Dominion, as the Provincial Legislatures have no power to legislate in respect of them.

Incorporation of Companies.—Provincial Legislatures have power to make laws for the "incorporation of companies with provincial objects," and a case is now pending before the Supreme Court of Canada to determine the exact meaning of that expression, whether, for example, a company incorporated by a Provincial Act to carry on the business of insurance can insure lives or property outside of the province.

Companies may be incorporated by Private Acts or with certain exceptions by Letters Patent issued by a department of the Government of Manitoba upon petition. In Saskatchewan and Alberta incorporation, otherwise than by Private Acts, must be by Memorandum and Articles of Association filed with the Registrar of Companies and the certificate of that officer, as in England.

Exemptions from Seizure for Debt.—Provisions very liberal to the debtor exist in all the provinces for exempting from seizure and sale under execution or registered judgment certain of his chattels as well as his actual residence or house, and the homestead of a farmer granted to him by the Dominion Government while he lives on it. Particulars of these exemptions would occupy too much space here, but they are set out fully in "The Canadian Lawyer," a handy volume published in 1912 by the Carswell Company, Ltd., of Toronto, Ontario, which the reader might consult for many details of other important laws necessarily omitted from this article.

Land Titles Acts.—See "Torrens System."

Landlord and Tenant.—In addition to such things as are, by the law of England, exempt from distress for rent, it is provided that, with certain exceptions, a landlord shall not distrain for rent on goods and chattels the property of any person except the tenant or person who is liable for the rent, although the same are found on the premises (see R.S.M. 1902, c. 49, s. 5).

When a tenant wrongfully refuses to give up possession, the landlord may, instead of proceeding by an action of ejectment, resort to the summary remedy provided by statute under order of a judge.

Lien Notes.—For the special legislation on this subject the "Canadian Lawyer" may be consulted (see pages 253-55, 5th edition, 1912).

Marriage.—Legislation respecting the solemnization of marriage is exclusively for the Provincial Legislatures.

In Manitoba, marriages must generally be before a minister or clergyman of some Church, although there are special provisions regulating marriages amongst Quakers, Jews, members of the Salvation Army, &c. Marriage licences must be procured unless proclamation of intention to marry or "banns" are published, or unless they are dispensed with by the head of any Church or congregation.

In Saskatchewan and Alberta marriages may also be celebrated civilly before marriage commissioners appointed for that purpose by the Government.

Master and Servant.—Suits for wages up to \$100 may be brought before any Justice of the Peace or Police Magistrate in the municipality or district in which the master resides (R.S.M. 1902, c. 108). This is the only civil jurisdiction conferred on justices or magistrates.

Mechanics' Liens.—The statutes give every person doing work upon a building or supplying materials for it a lien upon the building and the land occupied thereby and usually enjoyed therewith for the price of his labour or materials, limited, in the case of persons working under a contractor or supplying materials to him, to the amount that may be owing by the owner to the contractor. In such case the owner must, at his peril, keep back a percentage of the value of the work done and materials furnished for the protection of persons having claims against the contractor. The lien comes into existence from the time the first work is done or materials furnished, and will subsist for 30 days after the last work is done or materials furnished. A claim for it must be registered before the end of that time, or it ceases to exist. The lien, though registered, will also cease to exist at the end of 60 days' further time unless proceedings to enforce it, or in which it may be enforced, are taken in the courts meanwhile.

No matter how many liens are registered

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they may all be enforced in an action based upon any one of them, and all rank equally except that wages for 30 days are given a preference as against the percentage held back by the owner as above.

Protection of Game.—All the provinces have Game Protection Acts designed to prevent the extermination of game, animals, and birds, and providing close seasons during which they may not be hunted, taken, or killed.

Registry Laws.—See "Torrens System."

Succession Duties.—All three provinces have statutes providing for the collection of succession duties upon the estates situated therein of persons dying, whether such persons were residents or not. These duties are for the purpose of provincial revenue.

Certain estates of small value are wholly exempt from succession duty, and when, in the distribution of an estate, the share coming to a father, mother, husband, wife, child, daughter-in-law, or son-in-law of the deceased would not exceed a certain sum (which varies in the different provinces) such shares are also exempt from the duties. As usual in such statutes, there is a sliding scale of percentages of duty payable; so that the larger the amount of the estate, the greater is the percentage charged upon it, and, in Manitoba, if the estate exceeds \$800,000 the duty may be as high as 15 per cent. There is also in Manitoba a sliding scale of percentages payable according as the money is to go to near relatives, such as wife or child, or to persons more remotely related, or to persons not related at all to the deceased.

Torrens System of Land Titles.—This "new system" is in force in all the three provinces, having been introduced in Manitoba in 1885 and in the territory comprising the other two provinces in 1886.

Before its introduction there was in force the Registry Act, which still applies to all lands not brought under the new system. Under the Registry Act, all conveyances and instruments dealing with land could be registered in the proper office, and priority of registration generally afforded protection against unregistered instruments, though of earlier date. Practically, therefore, all such conveyances and instruments were registered. In order to ascertain whether the title to a piece of property was good it was necessary to commence with the patent from the Crown and to examine every successive conveyance and instrument re-

lating to the land that was registered, no matter how long the chain of title might be or how often the title had been previously examined, and the intervention of the death of an owner or of a sale of the land for taxes made the responsibility of the solicitor still more onerous.

But now, when the owner possesses a certificate of title in his name under the Torrens system, there is no necessity to go behind that to examine his title. When he sells his property he hands over to the purchaser a transfer and the certificate of title. The purchaser pays his money, takes the two documents to the Registrar, and gets from him a new certificate in his own name with what is practically a Government guarantee of the title.

There is an Assurance Fund, accumulated from fees charged on first bringing the land under the Act, out of which the true owner of the land, if deprived of it or of any interest in it by the issue of the certificate, will be compensated by means of the machinery provided by the statute. Or, if the *bona fide* holder of a certificate has, for any reason, to lose the land because, for example, of some previous transfer or deed having been forged, he will in like manner be compensated out of the Assurance Fund. In Manitoba the demands on this fund during the 28 years of its existence have amounted to a very small proportion of the total fund.

In Saskatchewan and Alberta it has been for years compulsory for every patentee of land from the Crown at once to have the land brought under the Torrens system, and, in Manitoba, it is intended to follow the same course in the case of all patents from the Crown hereafter issued. With these exceptions, however, it has been entirely optional with the owner of land whether he will bring it under the new system or not. If he wishes to do so, he makes an application to the District Registrar, a barrister appointed by the Government, produces his evidences of title, and pays the required fees. The title is then carefully examined from the commencement of the chain, which is generally a Crown patent, and, if found to be good and safe-holding, the official issues the first certificate of title to the applicant or his nominee, and the new system thereafter applies to the property.

Buying land thus becomes about as easy, simple, and expeditious as buying a horse or any other chattel, and so popular has

been the new system in Manitoba that comparatively few parcels of land in the province are still under the old system, which bids fair to die a natural death within a few more years; whilst in the other provinces the proportion of properties under the old system is even less than in Manitoba. Ample provision is made for the registration of mortgages, leases, &c., all encumbrances being required to be endorsed on the certificate of title, as well as on the duplicate certificate retained in the Land Titles Office.

Trusts of property are not recognized under the new system, but a person claiming an interest in the land under a declaration of trust or under an agreement of sale from the registered owner, or in any other way, may protect his interest by registering a *caveat*. If the registered owner mortgages the property his certificate of title must, in Manitoba, be deposited in the Land Titles Office for the protection of the mortgagee as well as himself.

A mortgage under the Act does not involve a transfer of the "legal estate," but only a charge on the land, so that, when it is paid off, there is no necessity for a deed of reconveyance, but only a discharge. It should also be noted that, in the case of land under this system, it is not the execution and delivery of any transfer, lease, or mortgage, but *its registration in the Land Titles Office*, that operates to shift the title, and no instrument, until registered in the prescribed manner, is effectual to pass any estate or interest in the land, or to render it liable to any mortgage or charge. The statute makes suitable provision for the issue of a certificate of title to the personal representatives of a deceased registered owner.

Wills.—The law on this subject differs so slightly from that of England that it is not necessary to give much space to it here.

In Manitoba and Alberta, but not in Saskatchewan, a holograph will, that is, one wholly written and signed by the testator himself, requires no attesting witness or witnesses.

As to all other wills, they must be attested as follows: The will must be signed at the foot or end thereof by the testator or for him by some other person in his presence and by his direction. The testator must make or acknowledge his signature in the presence of two or more witnesses present at the same time, and such witnesses must attest and subscribe the will in the presence of the testator.



WINNIPEG SKY-LINE.

WINNIPEG AND ITS ENVIRONS



THOSE who would appreciate the importance of Winnipeg should glance at a map, for it is given to few cities to hold a position geographically more important or commercially more full of promise. The lakes of Winnipeg and Manitoba to the north of the city and the International frontier to the south form the sides of a passage about 100 miles in width. Through this passage, through Winnipeg especially, which lies in the heart of it, the trade from east and west flows to and fro. And it is to this fact, as things stand, that Winnipeg owes its phenomenal prosperity. Every effort has been made to attract the manufacturer, and to a not inconsiderable extent the endeavour has been successful; but the wealth of Winnipeg springs from the geographical position which has made it, and which must keep it, the main distributing centre for one half of Canada. It is, in fact, a central point in the Dominion, to which the transcontinental lines of necessity converge and from which they radiate.

It is not to be imagined, however, that any hint of commercial greatness weighed with the early settlers who, under the regis of Lord Selkirk, laid the foundations of the city in 1812. Commerce, as the term is now understood, was indeed far from their thoughts. The Red River offered a favourable means of transit, and they sailed along it; the land about its confluence with the Assiniboine was favourable to the purposes of agriculture, and so they settled there. For some

years the settlement made a halting and precarious progress; at one period, in 1870, with a population of about 250 souls, it stood in open defiance to the Empire of which it was but an insignificant outpost. Gradually, however, the surrounding territory was peopled, and as the years passed by, Winnipeg, or Fort Garry, as it was then termed, commenced to assume a consequence far greater than that of the average trading station. In 1874 Winnipeg was incorporated as a city, and in 1877, amidst considerable excitement, the first locomotive was ferried to the city on a barge. This engine, the "Countess of Dufferin," has wisely been preserved, and stands an interesting memento of other days, fronting the station of the Canadian Pacific Railway.

In 1885 the population of Winnipeg had increased to 19,574. By 1902 it had become 48,411, by 1905, 79,975, and to-day it stands, probably, at 200,000. The extraordinary development that has occurred in the city since 1900 will scarcely be seen again, even in Canada. Land purchased in 1901 for 26 cents a foot has been sold in 1913 for \$175 and \$250 a foot, or, to state the fact in a currency more familiar to English ears, land purchased in 1901 for 1s. per foot frontage has been sold in 1913 for £36 and £51 per foot. Property situated at the north-east corner of Portage Avenue and Furby Street, to take another instance, was purchased in 1902 for \$60 per foot frontage (£12 10s.) and sold ten years later, in 1912, for \$1,521 (£313 12s. 2d.) per foot frontage. When it is remembered that this colossal profit has been secured

upon each frontage foot of the purchase, we have a transaction that may well stagger the imagination. Year by year the continued increase in the value of land literally poured fortunes into the pockets of men who had done little to earn them, and who, in many instances, had but the vaguest idea of the uses to which to put their money when they obtained it. Nor were the owners of land the only persons to benefit; business in every direction increased at a pace that taxed to the utmost the resources of those fortunate enough to be engaged in it. In the space of a few years small firms became great ones, unimportant industries developed into powerful corporations, and men whose utmost ambition it had been to achieve a modest competence found themselves within an inconceivably short period presidents of companies and magnates of importance. And all this time the speculative boom continued. All classes of men invested in real estate, and for some years every type of investment was devoured so soon as it was flung upon the market. Some investors made huge profits, many made small ones, and a few lost all that they possessed. Then in the autumn of 1907 and the spring of 1908 affairs received a temporary check. Financial stringency in Europe and the United States stopped for a few months that inflow of capital without which commerce in a new and rapidly developing country cannot hope to keep pace with its obligations. In Winnipeg, as in other Canadian cities, speculation and to some extent business came to a halt. But the depression was short-lived, and before 1908 had come to a close,

THE PRAIRIE PROVINCES OF CANADA

trade was once again in full swing and land values were soaring higher than ever. The prosperity at which we have hinted has continued until the present day. The individual is, perhaps, inclined to examine a little more closely the investments which are constantly brought to his notice. Business is conducted on more sober principles, but to such an extent does the spirit of enterprise still permeate the city that there are few shoeblacks or lift-boys who do not own their plot of land at one point or another in the Dominion.

City Government.—Winnipeg is governed under the powers of a charter from the

in a like manner to the amount of \$500. The right to vote at municipal elections belongs to all persons, male or female, subjects of His Majesty by birth or naturalization, of the full age of 21 years, who are freeholders of the city, rated in the assessment roll for at least \$100, or leaseholders or tenants of real property rated for at least \$200.

The Council as a whole is the legislative body and carries on its legislative work through standing committees.

The Board of Control is the executive body, and as such deals with all financial matters, regulates and supervises expendi-

The public parks of the city are placed under the control of a Public Parks Board, composed of the Mayor, two members of the Council, and six ratepayers appointed by the Council. To provide for the expenditure for park purposes a rate of one-half of one mill¹ on the dollar may be levied on the general assessment of the city.

Whilst the Mayor does not receive a salary, he is awarded an indemnity against official expenses of \$5,000.

The Mayor is ex officio chief magistrate of the city. A police magistrate and a Dominion magistrate also sit, although the latter is not concerned with local cases.



MAIN STREET, WINNIPEG, IN 1874.

Provincial Legislature. The Council is composed of a mayor, four controllers, forming the Board of Control, and 14 aldermen. The Mayor and controllers are elected annually from a vote of the entire city. One alderman is elected annually from each of the seven wards into which the city is divided, and holds office for a term of two years. Persons eligible for election as mayor and controller must be owners of property rated on the assessment roll of the city to the value of \$2,000, over and above all encumbrances against the same, and for aldermen must be rated

tures, revenues, and investments, nominates all heads of departments, prepares specifications, inspects and reports to the Council upon all municipal works, and generally administers the affairs of the city, except as to the public schools and police department. The schools are under the control of the Public School Board, elected annually by the ratepayers, and the police are controlled by the Board of Police Commissioners, which consists of the Mayor, the County Court judge, police magistrate, and two members of the Council appointed annually.

Streets and Parks.—Passing down Main Street southward from the Canadian Pacific Railway and leaving the so-called "North End" at his back, the visitor will at first observe a portion of the city in which active development is still in progress. For some distance commodious and unpretentious buildings jostle each other in amusing confusion. Immediately after passing the City Hall, however, the towering structures erected by the Union Bank and the Confederation Life Association

¹ The "mill" is the one-tenth part of one cent.

WINNIPEG AND ITS ENVIRONS

stand, ten stories in height, facing each other across the roadway. From this point onwards larger shops and a succession of banks give a more dignified appearance to the street. Of the banks, the premises of the Bank of Commerce and the Bank of Montreal are especially handsome. Opposite the Bank of Montreal, Portage Avenue swings away to the right, Main Street continuing past the Industrial Bureau, a long and low building, the white and festive appearance of which is curiously reminiscent of exhibition grounds, to the Union Station, where Broadway, the finest boulevard of the city, joins it at right angles.

Portage Avenue, destined to become the chief shopping thoroughfare of Winnipeg, and possibly of Western Canada, is already very attractive about its juncture with Main Street. The Post Office, a handsome stone-fronted building, stands a few yards distant upon the left, and further still on the same side of the roadway can be seen the great red brick block known throughout the West as "Eatons." On the right hand the Stirling Bank and other buildings catch the eye. Upon the streets that run about and between the two principal thoroughfares of the city great buildings are everywhere being constructed, but as yet the principal shops and banks are to be found upon Main Street and Portage Avenue.

The celebrated store known as "Eatons" has a frontage of 848 ft. on Portage Avenue, Donald, and Hargrave Streets. It is eight stories high and contains during the Christmas season no fewer than 5,000 employees. Within a short distance a vacant site, even greater in area, marks the future home of the Hudson's Bay Company. The large premises at present occupied by this corporation front the Union Station at the junction of Main Street and Broadway. The shopping district having veered towards Portage Avenue, however, the Hudson's Bay Company will shortly commence the erection upon that thoroughfare of a building exceeding even the formidable dimensions of Eatons.

But though imposing buildings abound, the impression first produced by the city can scarcely be termed a favourable one. The present is for Winnipeg a period of transition, and wooden erections of earlier days, whilst they are gradually being superseded, still exist in great numbers. Very

frequently they may be found rubbing shoulders with ten-storied office blocks constructed on the most modern lines. As a consequence Winnipeg presents an appearance to which the highly critical tourist can with justice take exception. If, however, the critic will judge Winnipeg, as it should be judged, from the commercial standpoint, he will find in this very incongruity a sign of certain progress and a portent of the future. By a convenient system, thoroughfares are designated streets or avenues according as they run from north to south or from east to west. Main Street, running from north to south, and Portage Avenue, running from east to west, are constructed on the most generous lines. The actual roadway in each case is 96 ft. in width, to which figure must be added two pavements each 18 ft. in width. From house to house, therefore, these thoroughfares are no less than 132 ft. wide. It is very doubtful, however, if in this instance a laudable desire to anticipate future requirements has not been carried to excess. The very width of the road constitutes a source of danger, since the pedestrian is frequently unable to anticipate the exact course that the traffic will take. Again, the cost of upkeep is considerable, and the carrying of water and gas pipes across the roadway to connect with mains laid on the further side is inevitably costly. Whilst the volume of traffic, especially of motor-driven vehicles, is considerable, it cannot be suggested that it necessitates so wide a roadway. Side streets are now constructed to a uniform scale of 66 ft., 40 ft. being devoted to the roadway and the balance to the pavements. This width is extremely convenient, and the city may well take pride in the fact that it has avoided those narrow and tortuous thoroughfares which in Europe are at once the delight of the tourist and the despair of the cartage contractor. Asphalted streets at the time of writing total 92½ miles. Pavements on improved roadways are granolithic; 109 miles have so far been constructed. This substance is exceedingly durable and could scarcely be improved upon. The considerable use that is made of asphalt for street paving purposes is to some extent accounted for by the fact that the soil of the province is but poorly supplied with gravel and rocks suited for road metal. To ensure economical work the city established the first municipally owned asphalt plant on

the continent, and has since laid down its own paving. This work is accomplished at a cost of \$2.50 per square yard; granolithic pavements, which are laid down by a separate staff, cost the city \$1.80 per square yard. The area thus treated is steadily extending; beyond it the roadways are macadam and the pavements of wood. About 400 miles of wood pavements demand and receive constant attention. The system adopted is at once simple and effective, specified districts being allotted to inspectors who make daily rounds armed with hammer and nails. When the damage is slight it is rectified on the spot, but when it is more serious it is reported to the city authorities the same evening and repaired the following day. Probably no higher compliment can be paid to the organization of the Street Commissioner's department than is conveyed in the bare statement that within the past three years the city has not lost a single action for damages arising from defective pavements. Whilst still concerned with the question of streets, it may be worthy of mention that Portage Avenue has been factitiously termed "the longest street in the world." This roadway is constructed upon, and at some distance from the city merges into, the original trail to Edmonton, a city about 800 miles away.

Branching from the principal thoroughfares in close proximity to the commercial area are numerous "boulevard" streets. Whilst some residential streets have not as yet been "boulevard," it is the intention of the city that they shall be, and for some distance from the centre of the town the "boulevard" street is the rule rather than the exception. These streets merit a somewhat detailed description. In the "boulevard" street a grass stretch is bedded between the granolithic pavement and the asphalted roadway; this stretch again is planted with trees. Both grass beds and trees are carefully tended by skilled gardeners in the employ of the Public Park Board. It is probably no exaggeration to say that the effect thus produced is in the summer more likely to attract the attention of the visitor than any other aspect presented by the city. Residential streets are "boulevard" after the streets are paved, frequently on petition from the residents.

Expenditure in the matter of maintenance and construction is borne by the



1. THE ASSINIBOINE RIVER.
2. THE ARTIFICIAL LAKE IN ASSINIBOINE PARK.

3. RIVER PARK.
4. VIEW ON RED RIVER IN RIVER PARK.

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owners of property abutting on the improved area. The assessment of the cost of these improvements is spread over a period of seven years, whilst an annual charge is made for maintenance. The initial cost varies slightly according to locality; it has been found, however, that boulevard construction works out at a nearly uniform figure of 4 cents, and maintenance at 3½ cents, per foot frontage per annum. The trees used are elm, with about 1 per cent. ash, and purchasing as the Board is able to do in large quantities, the cost per tree does not exceed 73 cents. When necessary the trees are sprayed and every attention is given to the upkeep of the boulevards. The procedure employed in the carrying out of these improvements may be briefly described as follows: the residents petition, the City Council sanctions and appropriates the money, and the Park Board carries out the work. During the year ending January 31, 1913, the sum of \$23,698.68 was expended upon boulevard maintenance. This sum included such items as \$7,590.40 for mowing grass and \$1,052 for pruning trees. The city now includes no less than 115 miles of boulevard streets, forming a possession of which the citizens may justifiably be proud.

The following table shows the length of boulevard constructed since 1906:

	1906.	1907.	1908.	1909.	1910.	1911.	1912.
No. of streets boulevarded	26	26	24	18	19	19	20
Mileage	11.5	9.5	9.3	7.5	7.7	8.1	12.9
Total expenditure ...	\$20,650.09	\$12,073.41	\$8,873.24	\$6,490.21	\$8,878.30	\$9,032.23	\$14,874.43

The streets of the city are electrically lighted, arc lights being principally employed. The city at present includes 1,993 lamps of this description, 167 incandescent lamps, and 275 ornamental lamps.

The Public Parks Board, in addition to supervising the construction and maintenance of boulevards, has within its charge the upkeep of the parks and of Brookside Cemetery. There are now twenty-eight public parks in Winnipeg, with a total area of about 565 acres, representing a purchase price of \$304,508.51 and possessing an estimated value (1913) of \$2,300,000. Included in this total is a large suburban park of an area of 282 acres, situated on the bank of the Assiniboine River, about three miles from the City Hall. This park was formally opened to the public in 1909. Another and more recently acquired park consists of 98 acres on the Red River, in the parish of Kildonan. Park mainten-

ance was in 1912 provided for from the following sources:

	\$
Levy for park purposes	107,180.22
Grant of City Council	25,000.00
Rents, sale of refreshments, &c. ...	18,219.90
Certain police-court fines	733.00

During the summer months band music is provided in the parks, the cost of the concerts being defrayed by grant from the City Council. In 1912 the sum of \$4,032.90 was voted for this purpose.

Brookside Cemetery.—Brookside Cemetery, comprising 160 acres, is owned by the municipality and administered by the Parks Board. For some years this cemetery was a source of loss to the city. This state of affairs has recently been rectified, and the cemetery is now self-supporting; it does not produce however, and is not intended to produce, a considerable profit. The experience of the Parks Board in this connection will not be without interest to students of municipal problems. Acting on the universally accepted rule that municipal ownership should be judged by the service provided rather than by the dividend paid, the cemetery charges were placed at an extremely low figure. It soon transpired, however, that almost the entire benefit thus resulting was falling into the pockets of the undertakers, who in some

the plans for the proposed building. The original permit having been secured and the plans approved, the department from time to time undertakes an examination of the work, and on its completion issues a further permit authorizing occupation.

The maximum height of buildings in normal circumstances is 120 ft. Structures may exceed this limit, however, by sanction of the City Council. In such cases the owners are required to install fire protection measures at their own cost. It may be of interest at this stage to place on record the number and nature of the permits issued during 1912.

692 frame buildings.
2,005 frame buildings on stone bases.
84 brick dwellings.
54 brick veneer dwellings.
158 shops and stores.
70 tenements, hotels, and office blocks.
24 churches, schools, and institutes.
94 garages, warehouses, storehouses, mills, factories, &c.
21 theatres and public buildings.
1,125 private garages, stables, sheds, and workshops.
1,009 additions, alterations, and repairs.

The total estimated value represented by these permits stands at \$20,563,750.

BUILDING RECORDS.

	Permits.	Buildings.	Cost.
			\$
1900	530	638	1,441,863
1901	630	820	1,708,557
1902	822	973	2,408,125
1903	1,227	1,593	5,689,400
1904	1,768	2,268	9,651,750
1905	3,349	4,099	10,840,150
1906	3,487	4,204	12,625,950
1907	2,433	2,827	6,309,950
1908	1,544	1,769	5,513,700
1909	2,498	2,942	9,226,325
1910	3,291	3,916	15,116,450
1911	3,671	4,342	17,550,400
1912	4,489	5,339	20,563,750

Water Supply.—The waterworks system is owned and operated by the city. The supply is from an artesian source, and, whilst the water is exceptionally pure, it is unfortunately extremely "hard." The question of an alternative supply has been frequently debated, and a commission is at present investigating the feasibility and expense of securing one. It may safely be said, however, that it will be some years



1. GOVERNMENT BUILDINGS.
3. BROADWAY.

2. GOVERNMENT HOUSE.
4. CRESCENTWOOD.

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before the existing arrangements are altered. The pumping capacities of the several wells vary from 425,000 to 5,000,000 gallons per 24 hours. Certain reservoirs also owned by the city have a total capacity of 24,300,000 gallons. This total includes 6,000,000 gallons credited to a reservoir still under construction.

The total expenditure in connection with the waterworks system and extensions to December 31, 1912, was \$4,787,533.11. This includes an amount of \$237,500 for purchase of the old Water Works Company's plant, acquired in April, 1899.

Mains carrying water for domestic purposes represent a length of 238½ miles.

Fire Brigade.—The Winnipeg Fire Department, which is controlled by the City Council, consists of 1 chief, 1 assistant-chief, 3 district chiefs, 1 secretary, 1 stenographer, 1 master mechanic, 1 motor mechanic, 15 captains, 13 lieutenants, 6 engineers, 6 assistant engineers, 134 firemen, making a total of 183 officers and men apportioned amongst 13 stations.

The estimated expenditure of the department for the fiscal year 1912-13 is \$310,335.

There is at present in the department the following apparatus :

- 6 motor engines (chemical).
- 15 hose wagons.
- 3 motor hose wagons.
- 7 steam fire-engines.
- 3 aerial ladder trucks, 2 85-ft., 1 65-ft.
- 7 hook and ladder trucks.
- 1 65-ft. water-tower with deck turret.
- 3 deluge nozzles on hose wagons.
- 90 horses.
- 2 chiefs' buggies.
- 3 chiefs' automobiles.
- 53,000 ft. of 2½-in. fire-hose.
- 6,000 ft. of 3½-in. „

Police Force.—The police force of Winnipeg is organized to a great extent on English lines, and compares more than favourably with similar forces in other Canadian cities. The force is largely recruited from amongst Englishmen and Scotsmen, and the deportment of the men is such as inevitably reminds the Londoner of the police of his native city, the somewhat aggressive demeanour of the civil force beyond the International boundary being pleasantly inconspicuous.

In control of the force is the Board of Control. This board is constituted by the

Mayor and two aldermen, elected annually, and the senior judge of the County Court and the police magistrate, who are ex-officio members. The actual administrative work, however, lies in the hands of the chief and deputy chief. The rapid increase that has taken place of late years in the strength of the force cannot be better illustrated than by the plain statement that 14 years ago it did not comprise more than 14 men. To-day the strength stands at 225 officers and men. Attached to the establishment are a motor patrol-wagon, 2 horse patrol-wagons, and a motor ambulance. The force is divided amongst 3 stations, and patrols over 90 miles of streets. Applications to join are not accepted from men under the age of 21 or over 30. Whilst a mounted body is not attached to the force, an efficient motor-cycle squad is on hand to control motor traffic. During 1912 the cases disposed of, including arrests under warrant, summary arrests, and summonses, totalled 14,098; of 9,252 persons arrested 8,547 were males and 705 females. Matters reported to and dealt with by the police included :

- 73 cases of persons accidentally killed.
- 17 suicides.
- 11 attempted suicides.
- 5 murders.
- 1 attempted murder.

Amongst the less serious, though to the parties interested equally important, services performed by the force may be mentioned the finding of 1,404 lost children.

In Canada, far more than in England, the police force is liable to become the sport of popular emotion, and a state of affairs is frequently produced that lends itself to abuse at the hands of those responsible for its activities. For this reason the impartial and honest manner in which police affairs are at present administered in the great city of Central Canada is a matter which the citizens may well regard with considerable satisfaction.

The Foreign Population.—It would be hard to overestimate the ultimate importance of the considerable foreign population to be found, principally in the so-called "North End" of the city.

The immigrants from whom this population is continuously recruited may be divided roughly into three main groups : Immigrants from Southern Russia, Jews

from Russian Poland, and the Slavonic group. The first-mentioned class consists largely of families of German extraction who some years ago settled in Russia to take up certain concessions, which, however, proved unsatisfactory. This type of immigrant may not unfairly be classed as inferior to the German immigrating direct from his native land. Amongst the Slavonic group may be included the Ruthenians, Poles, and Russians. Closely allied to these races in social habits are the Hungarians. Men of these nationalities particularly supply the unskilled labour market of the city. For the most part they belong to no labour union, and their scale of living is considerably below that of a similarly circumstanced Englishman. From these causes they tend to keep at a low figure the rate of wages for unskilled labour. For the most part the work upon which they must depend for their livelihood, such as sewerage construction and building work generally, cannot be continuous, regular work being prohibited during four months of the year by the severity of the Manitoban winter. If, therefore, the wages of these immigrants are averaged over the year, it will frequently be found that they do not exceed \$50 per month. In Winnipeg a small workman's cottage cannot be obtained at a lower rental than \$20 per month, a sum which must be considerably increased by the cost of heating. Food-stuff and clothing again stand at a very high figure. It not unnaturally follows that the foreign element lives in overcrowded and unsanitary conditions, that it denies itself proper food, and that it strives by every means to increase the wage-earning capacity of the family, the wives taking up charring, and the children, at the ages of thirteen and fourteen, drifting into factories and stores. Whatever the future may hold in store, compulsory education does not exist in Manitoba, and, so far as this matter is concerned, no steps are being taken to secure the future betterment of the unsatisfactory conditions which now obtain. As regards housing conditions, the remedy is not easy to find. Land has reached a high figure, and the landlord and the builder are entitled to a profit upon their enterprise. It is possible, however, that some day the city may itself solve this problem by the provision of workmen's dwellings, built and controlled by the municipality.

As illustrating the very considerable extent of the foreign population about

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St. John's, it may be remarked that handbills are frequently issued in four languages, and that newspapers may be purchased printed in Norwegian, Swedish, Icelandic, German, French, Polish, and Yiddish.

It should not be imagined, however, that the foreign element in Winnipeg is necessarily confined to unskilled labour. This is far from being the case, since men of foreign extraction may be found occupying positions of distinction in every walk of civic life. It is at once curious and interesting that the Rhodes Scholar sent to Oxford in 1912 by the University of Manitoba was an Icelandic, whilst his comrade of 1913 was a German.

The City Hydro-Electric Power.—By far the most important of the many enterprises controlled by the city is the power and light plant situated at Point du Bois, on the Winnipeg River, about 77 miles to the north-east of the city. These works are the more interesting since they owe their origin to the unswerving determination of the citizens to make Winnipeg a manufacturing centre. Believing, as they had every right to do, that geographically Winnipeg was well suited to form a manufacturing centre, and perceiving that a cheap supply of power was an inducement that might well turn the scales in its favour, the city, in 1906, authorized the Council to borrow \$3,250,000 for the purpose of acquiring a site and erecting the necessary works. A satisfactory answer to the question as to where the works were to be placed was soon forthcoming. At Point du Bois the Winnipeg River drains 50,000 square miles, a magnificent flow of water being thus assured. Again, at this spot the river falls 32 ft., a fall which the engineers, by the construction of a dam, were enabled to increase to 47 ft. The conditions being therefore exceedingly favourable, it only remained to erect works capable of utilizing to the full the power which nature had placed at the disposal of the city.

The present installation is 28,000 h.p., the full capacity of the present building being 45,000 h.p. The average flow of water is 25,000 cubic feet per second. The transmission line (owned by the city) is 77 miles long and 100 ft. wide, upon which is constructed one line of double towers, with transformer station and distributing stations in Winnipeg. The cost of the plant, including power-house, dams, wires, forebay, tailrace, intake, rack piers, for full installation, machinery, transmission line, trans-

former station and distribution station was \$5,400,000. The work of the first year's operation of the plant was entirely satisfactory. The cost of domestic lighting has been reduced 70 per cent., to 3 cents per kilowatt, and that of power proportionately, and the plant is already paying its way.

The importance of these works can scarcely be exaggerated. To-day power is to be obtained for manufacturing purposes in Winnipeg more cheaply than at almost any other point in the Dominion, the rate varying from $\frac{1}{2}$ cent to 1 cent per kilowatt. But the advantages are not limited to the benefits derived by manufacturing concerns; the cost of street lighting, of the operation of the waterworks and of other municipal activities has been enormously decreased, whilst increased comfort, cleanliness, and economy have resulted in a hundred directions. Seldom has municipal enterprise been more abundantly justified.

Religious Matters.—The churches of Winnipeg have kept pace with the growth of the city and there are now 115 churches of various denominations in Winnipeg.

The bulk of the church-going population is divided between the Presbyterian, Anglican, Roman Catholic, and Methodist Churches. Calculated on a population basis of 100,000, the religious preference census of Winnipeg shows 18 per cent. Presbyterian; 17 per cent. Church of England; 15 per cent. Roman Catholic; $13\frac{1}{2}$ per cent. Methodist; 5 per cent. Baptist; 5 per cent. Hebrews; 7 per cent. Evangelical Lutheran; $3\frac{1}{2}$ per cent. Congregational; 1 per cent. Salvation Army; $7\frac{1}{2}$ per cent. of other denominations; and 8 per cent. with no preference to avow. It should be borne in mind, however, that the population of the city is constantly increasing at a rapid pace, and that a great number of persons reside in the city only for a few days before taking up a permanent residence elsewhere; for these reasons a religious census taken at a particular date may well prove misleading in some details.

The Industrial Bureau.—The Industrial Bureau may be described as a centre at which civic enthusiasm is collected and transformed into power. It is a representative and semi-official organization, representative in the sense that it works hand in glove with every commercial interest of consequence in the city, and semi-official in the sense that it receives financial assistance from the Council and frequently acts on its

behalf. Whilst the grant made by the city is not fixed by statute, the donation has for some years been the uniform sum of \$25,000. The board of directors includes the names of a great number of leading commercial men as well as those of three representatives of the City Council. As is frequently the case with influential organizations, the real importance of the Industrial Bureau lies in the background. Apparently the extensive building that it occupies is devoted to an exhibition of locally manufactured wares of all descriptions. But this exhibition, interesting and potent as it undoubtedly is, forms but a small part of the work of the organization. Pamphlets of every description are drawn up and circulated, intricate negotiations with commercial interests are conducted, and popular movements having as their object an increase in commercial efficiency or civic beauty are instigated. If any man has a theory that may prove of benefit to Winnipeg, it is to the Industrial Bureau that he takes it, and if, as is sometimes the case, the theory is of value, the Industrial Bureau will devote its resources and ability to putting it into practice. It is claimed by the Bureau that during the five years that it has been in existence it has brought no less than 132 industries to the city. An important part of its work is the furnishing to interested persons of exhaustive and expert reports relative to the opening that exists in the district for particular industries. A vast amount of labour is thus saved the manufacturer who is inclined to consider the claims of Winnipeg when choosing a site for his factory.

To attract small industries, the Bureau contemplates the establishment of a great "ready-made" factory. This will be constructed of steel, concrete and brick, and will be built on the unit plan, each unit being fitted with electric light and power, water, &c. It is intended to rent space to small manufacturers who, when the expansion of their business warrants them in so doing, will erect factories of their own.

A by no means unimportant branch of work undertaken by the Bureau is that associated with the Imperial Homes Reunion Association. This institution was founded to assist the families of emigrants to join relatives working in Western Canada. The Association has been exceeding by successful and now extends to as many as 25 cities.



1. MAIN STREET FROM PORTAGE AVENUE. 2. PORTAGE AVENUE. 3. MAIN STREET, LOOKING NORTH.
4. THE WHOLESALE DISTRICT AND MARKET SQUARE FROM THE UNION BANK BUILDING.

THE PRAIRIE PROVINCES OF CANADA

Hotels, Boarding-houses, Apartment Blocks, and Houses.—The two most prominent hotels in Winnipeg are the Royal Alexandra and the Fort Garry, owned respectively by the Canadian Pacific and Grand Trunk Railways. The Royal Alexandra, opened on July 19, 1906, contains at present 350 rooms; it is comfortable and excellently managed, the service is good, and it has for the past seven years had no serious rival in Central Canada. For some time, however, the necessity for an increase in accommodation has been obvious, and the present building, which adjoins the Canadian Pacific Railway station, is to be greatly increased in size, the accommodation that it provides being practically doubled. The minimum rates charged in this hotel are \$2 or \$3 per diem, the latter sum providing a room with bath attached. Meals are charged for separately.

The Fort Garry Hotel, situated at the junction of Broadway and Main Street, fronts the Union Station, which is shared by the Grand Trunk, Canadian Northern, and Great Northern Railways. This hotel at the time of writing is still under construction, though its completion cannot be more than a matter of a few weeks. The structure, which is very handsome in appearance, will contain 300 rooms; steps, however, have already been taken to double the size of the building. Work was commenced on September 23, 1911, and it is estimated that the structure will have cost on completion \$2,250,000. Whilst the hotel tariff is not yet arranged, it is probable that it will be similar to that at present in force in the Royal Alexandra Hotel.

For those to whom a more moderate tariff is a consideration Winnipeg provides an excellent selection of hotels at which may be obtained inclusive rates varying from \$2.50 to \$3.50 per diem.

Many boarding-houses are to be found scattered about the city. Rates vary according to the accommodation provided. For a comfortable room and three meals per diem a charge of from \$12 to \$15 per week may be anticipated. There are many houses, however, in which a lower rate is charged. An excellent system in vogue with most boarding-houses and many hotels is a plan by which non-residents may purchase a book of tickets available for meals. A single furnished room, without board, can rarely be obtained for less than \$16 per month.

The apartment block has, in Winnipeg,

become an institution, and it is scarcely surprising that this is so. The climate of the city runs to extremes, 40° below zero being by no means uncommon in the winter and 86° in the shade being witnessed in almost every summer. With this difficulty the apartment block is well adapted to grapple. The suites are invariably steam-heated from the basement, hot and cold water are laid on to each flat, storm windows are provided against the cold, and netted windows for the summer. The resident, therefore, is in the satisfactory position of the man who, having paid his rent, has no further calls made upon him. Rents, on the other hand, are somewhat high, and though apartment blocks are constantly being erected the supply shows no signs of exceeding the demand. For a man to rent a suite from a blue print and to move into it before the builders have completed the staircase is more the rule than the exception. A five-roomed suite costs usually from \$85 to \$100 per month, a four-roomed suite \$50 to \$75, and a three-roomed suite \$35 to \$45. In the newer blocks coal fireplaces are provided, and the general design, as well as the workmanship employed, is admirable.

Houses for rent are usually constructed of wood. The workmanship is good, however, and the buildings are well calculated to withstand the extreme cold of the winter. A small house containing eight rooms and an attic may be rented at from \$30 to \$70 per month, according to the distance that it stands from the centre of the city. It should be remembered, however, that the cost of heating is very considerable. Throughout the winter months night and day the furnace must be kept up. A moderate winter allowance for such a house as we have suggested may be placed at ten tons of coal, costing \$11 per ton. There is, therefore, much to be said for the apartment block in which the rent, though high, represents an inclusive charge.

It is not possible in an article of a general character to deal with this question so fully as it merits. It may be accepted, however, that high rents form one of the most serious of the many problems that confront the immigrant on his arrival. Nor is it easy to suggest a remedy. Whilst the population of the city is recruited, as it is at present, to the extent of some 20,000 persons annually, the enterprise of the builders cannot hope to do much more than keep pace with the growth. A

surplus of accommodation, which alone can reduce rents, can scarcely be looked for in Winnipeg for many years.

The Y.M.C.A. and its companion institute, the Y.W.C.A., are both strongly represented in the city. The building occupied by the former society is a large and imposing structure which cost over \$500,000 to erect and provides accommodation for about 5,000 persons. The Y.W.C.A., as infinitely the more valuable institution of the two, merits more detailed description. The problem of the girl immigrant is one which calls for the close and beneficent attention of the authorities, and in so far as the Y.W.C.A. is engaged in an attempt to solve it, it can legitimately claim a high place among the many institutions of the city.

Rates in this institution vary from \$3.50 to \$5 per week, according to the location of the room and the number of persons sharing it. Accommodation is provided for 88 permanent boarders and 14 temporary visitors. No girl earning more than \$50 per month can be received into the home, and residence must not exceed one year in duration. The institute provides such practical advantages as sewing-machines and a laundry, whilst the amusements include a gymnasium and a tennis lawn. Quite apart from the influence which the Y.W.C.A. is intended to exert, it cannot be doubted that it performs a practical work of the greatest value.

Amusements.—Of the amusements to be found within Winnipeg itself the most exacting critic can scarcely complain. Criticism, indeed, only begins when the limitations of the surrounding country commence to make themselves felt. With this aspect of the question we will deal later. Turning to the city, we find two recognized theatres, two music-halls, a vast number of picture palaces, a number of spacious covered ice rinks upon which, in the winter, hockey matches are energetically conducted, a successful baseball team, and a succession of concerts of all descriptions. Of the theatres, the Walker, which is the newer building, offers a number of excellent plays in rapid succession. Many of the touring companies to be seen at this theatre are of a high order, and it is no uncommon thing for two such companies to visit the theatre within the short space of one week. The Winnipeg Theatre is occupied by a popular and clever band of permanent players. Of the music-halls, the Orpheum provides a long programme, in

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which the inclusion of some name worshipped in London, Paris, or Berlin is by no means infrequent. The Empress, with two houses per night, also provides an attractive programme of a high order. Baseball is considerably played; cricket and football clubs exist in large numbers. Amongst the social clubs most tastes are catered for. The Manitoba Club, as the principal social club of the city, is well known. Several golf clubs exist, the musical talent of the city meets in the Clef Club, and the chess-players have an organization which, in view of the somewhat isolated position of the city, is stronger than might be expected.

When, however, the resident seeks for amusement beyond the city limit he is less successful in his search. During the winter the need of a week-end holiday is hardly experienced, but in the hot summer days the need is a strong one, and the means of satisfying it unhappily limited. Winnipeg Beach, the principal and almost the only alternative to the heat of the city, is situated on Lake Winnipeg, about 50 miles away. The Canadian Pacific Railway makes every endeavour to foster this traffic. The ordinary return fare of \$2.50 is reduced in the case of the day trips to \$1, and so-called "moonlight" trips, leaving the city at 6.30 p.m. and returning at midnight, may be accomplished for 50 cents. Whilst, however, Winnipeg Beach has many attractions to offer it cannot be suggested that Winnipeg is well situated as a tourist centre, and for the most part the resident in the city will do well to reconcile himself to the suggestion that but little distraction exists for him outside it.

Libraries.—The Carnegie Library, which occupies a handsome and easily accessible building, is admirably organized and controlled; it deserves, indeed, a more detailed description than it is possible here to give it. The "circulating" and "reference" departments together include 80,000 volumes. The former of these departments contains both a wide selection of fiction and a considerable number of works on history, travel, and the arts. The reference department is probably unique among free libraries in Canada in the extent to which it fulfils the function of a university and collegiate library. So much is this the case that the University of Manitoba recently conferred upon the responsible head of this department the honorary degree of

Doctor of Laws. Excluding directories and dictionaries, the daily average of books used in this department during the winter months 1912-13 was but a trifle short of 300.

In addition to the Carnegie Library several excellent subscription libraries exist in Winnipeg, whilst the Provincial Library, housed in the Government Building, should also be mentioned. The latter, however, is chiefly intended for the use of members of the Provincial Legislature, and for this reason is scarcely of general interest.

Street Car Service.—The street car system of Winnipeg includes 87 miles of track. The cars, of the single deck type, are comfortable, and on the whole it may reasonably be doubted if any city of equal population is better served. The system is operated by the Winnipeg Electric Street Railway Company, under franchise granted by the city, February 1, 1892. The franchise continues for a term of 35 years, expiring February 1, 1927, when the city may assume ownership of the railway and plant upon payment of the actual value of it, the value to be determined by arbitration.

Judged by a London standard, the single fare of 5 cents (2½d.) will appear somewhat high. It should be remembered, however, that these tickets constitute a uniform rate, being available for the longest distance as well as the shortest. Again, the transfer system, so frequently to be met with in Canada, is in force on these cars. By means of it a single 5-cent ticket will convey the passenger to his journey's end, regardless of the number of cars that he may be called upon to use. In addition to the ordinary tickets, which are sold at 6 for 25 cents and 25 for \$1, workmen's tickets available between the hours of 6 and 8 a.m. and 5 and 6.30 p.m., and throughout the day on Sundays, are issued at the rate of 8 for 25 cents. Finally, under this head, tickets are sold to school children at the rate of 10 for 25 cents. It will be seen, therefore, that the charges in force on the system are far more reasonable than at a casual glance would appear to be the case.

When it is remembered that the total population of Winnipeg does not exceed, at a liberal estimate, 200,000 persons, the volume of business transacted by the company can justly be called phenomenal. During 1912 the company carried no fewer

than 51,106,017 passengers, a figure that shows an increase of 10,824,772 over the total for 1911.

Of the many factors that contribute to make Winnipeg a car-using city, it is probable that the severity of the Manitoban winter plays the most prominent part. Whilst mentioning the extreme conditions prevailing during the winter, one may notice that the cars are well heated, and that an efficient snow-sweeping plant is maintained. Again, by a well thought out system of inter-locking services, it is possible to travel from any point within the city to any other with a minimum of delay and inconvenience.

The gross receipts for 1912 totalled \$3,765,384.06, whilst operating expenses reached \$2,004,147.92. During the same year about 9 miles of new track were laid and 33 additional cars were placed in service, 1,852 new poles were erected, and 409,066 lb. of wire with 114 transformers were put up in extension of the company's light and power distribution system.

The relationship between the city and the company may be defined as follows: The company pays to the city annually a sum equal to \$20 for each car used during the year, and is also liable to taxation upon its property, such as equipment, power-houses, and appliances. In addition, the company pays to the city annually 5 per cent. of the gross yearly earnings of the lines within the city boundaries. We give below the sums thus paid to the city since 1910:

	Car Tax.	5 Per Cent. Gross Earnings.	Total.
1910	\$4,600	\$63,293.70	\$67,893.70
1911	5,040	81,700.98	86,740.98
1912	5,700	105,748.74	111,448.74

The influence exercised over the system by the city is not inconsiderable, and even so comparatively trivial an abuse as the behaviour of an impolite conductor has more than once formed the subject of an official communication from the City Council to the management.

For some years the Street Railway Company has occupied offices on the important thoroughfare of Portage Avenue. Quite recently, however, the directors purchased a site on the corner of Notre Dame Avenue and Albert Street, in the heart of the city, where a fully modern 10-story office building has been erected.

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Approximately 300 cars are owned and operated by the company. As we have said, they are of the single deck type, are comfortable to ride in, and are well heated in the winter. The company owns several commodious car-barns at convenient points and the system throughout is efficiently organized and conducted.

Closely allied to the Winnipeg Street Railway Company are the Winnipeg, Selkirk, and Lake Winnipeg Railway, and the Suburban Rapid Transit Company. The former of these companies possesses track totalling 23 miles and runs from the city limits past the Lower Fort Garry to the village of Selkirk. The route is in places extremely picturesque and on public holidays a considerable volume of traffic is handled. During 1912 the gross earnings totalled \$106,181.24 and the expenses \$52,648.22. Twelve cars of considerable size are operated by this company.

The Suburban Rapid Transit Company runs from the city limits eastward to the village of Headingly, spurs being provided to the Country Club and Race Track at St. Charles. The mileage operated by this company totals 20 miles. The gross earnings for 1912 amounted to \$59,060.23 and the expenses to \$57,419.84. This company does not operate its own rolling stock, the cars used on its rails being the property of the Winnipeg Electric Street Railway.

The bonds and interest of both the Winnipeg, Selkirk, and Lake Winnipeg Railway and the Suburban Rapid Transit Company are guaranteed by the Winnipeg Electric Railway Company. The bonds of the former company total \$400,000 and of the latter \$500,000.

The main power plant of the Winnipeg Electric Railway Company is located on Pinawa Channel, Winnipeg River, where 30,000 horse-power is developed. In addition to these hydraulic works, the company operates a steam power plant within the confines of the city from which an additional 20,000 horse-power can be produced. The total power which can thus be developed being considerably in excess of the requirements of the company for traction purposes, the company sells power at cheap rates. As is mentioned elsewhere, the city owns its own plant, and it has been necessary for the company to reduce its rates to the abnormally low charges put in force by the Corporation. The Winnipeg Electric Railway also owns and operates a gas-producing plant which provides gas

for cooking purposes at \$1.50 per 1,000 feet. Upon this charge discounts of 15 and 20 per cent. are allowed for lighting and fuel respectively.

Stockyards.—The creation of the Public Markets, Ltd., or to give it its more usual title, the Union Stockyards, in St. Boniface is probably the most important step that has as yet been taken in Canada towards securing protection for the producer of live stock and favourable terms of purchase for the consumer. Hitherto the three great railways of the Dominion have owned and operated independent stockyards. In future, however, the Canadian Pacific, the Grand Trunk, and the Canadian Northern Railways will unload live stock in the new yards held by them jointly. Each railroad holds a third interest in the yard, and all stand upon an equal footing. The stockyard has its own trackage and it is intended to supply it with special yard engines. The area embraced by these yards amounts to 232 acres. At the time of writing 180 open pens are provided, chiefly for cattle, 90 covered pens for cattle, 80 covered pens for sheep, and 98 covered pens for hogs, making a total in all of 448 pens. Considering a pen to possess the capacity of a car, accommodation is thus provided for 448 car-loads of live stock.

The yards, so far as they have at present been developed, are divided into five blocks of $2\frac{1}{2}$ acres each, making $12\frac{1}{2}$ acres of occupied space. The total space available for development, however, including that already in use, amounts to no less than 65 acres.

An unloading platform accommodates 48 cars, providing an unloading chute for each. All pens are concrete floored and water and sewers are everywhere installed.

Beyond the yards the administration building occupies a floor area of 21,000 sq. ft., while two immense boilers are used for heating purposes. Some idea of the scope of this work is conveyed in the following remarks made recently by the secretary-treasurer of the operating company.

"In the first place, these yards are good yards, in which live stock can be handled under the best possible conditions as to convenience, comfort, and sanitation. There is ample provision for expansion, even if the business in future should exceed that now centring in Chicago.

"In the second place, there is absolute

public control of all rates charged at the yards, with the sole limitation that rates may not be so reduced that 6 per cent. interest on the actual investment may not be earned."

The Suburbs of Winnipeg.—Amongst the suburbs of the city may be included such districts as Fort Rouge, Crescentwood, River Park, and Rosedale to the south; St. Vital and Norwood to the east; St. John's and Kildonan to the north; and St. James's and Deer Lodge to the west. Fort Rouge especially will repay the short journey across the Assiniboine River required to visit it. Streets such as Wellington Crescent are seldom encountered. For the most part, houses upon this thoroughfare have been erected by residents for their own purposes. Here the boulevard may be seen in its perfected state, and this fact, coupled with the type of edifice to be found here and the close proximity of the river, lends to the district a distinction which must be seen to be properly appreciated. River View, closely adjoining Fort Rouge, is pleasantly situated, but for the most part contains less pretentious residences. St. Vital and Norwood beyond the Red River are rapidly growing districts which, from both the commercial and residential aspect, have much to commend them. No distinct boundary marks the commencement of St. John's. Whilst this district contains many fine streets, it is, speaking generally, one of the poorer localities of Greater Winnipeg. None the less, St. John's contains several important buildings, such as the Anglican Cathedral and St. John's College. Kildonan, a picturesque suburb on the west bank of the river, is likely to be better known in the near future. It is already becoming popular as a residential centre, and contains many picturesque houses and cottages. The ward of St. James's was, a few years ago, but so many acres of bare prairie. To-day, however, streets and houses are spreading in all directions, the district being very popular with residents who desire to reside away from the main business thoroughfares. For the most part houses in St. James's may be obtained at a moderate rental, many convenient bungalows having been erected which are rented at about \$40 per month. Deer Lodge is perhaps best known to the city resident as a convenient base for picnic and similar parties, the comfortable hotel, which forms the turning point for the city cars, offering

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every attraction to the visitor and way-farer.

St. Boniface.—Separated from Winnipeg only by the width of the Red River is the cathedral city of St. Boniface. Though commercially a part of Greater Winnipeg, St. Boniface is a distinct municipality governed by a Council consisting of a mayor and ten aldermen, two aldermen representing each of five wards into which the city is divided. Educational matters are controlled by a Public School Board of ten members elected on the same basis as the Council.

The Red River between St. Boniface and Winnipeg is spanned by six bridges, which are likely at no distant date to be considerably improved. The St. Boniface Council has, in fact, sanctioned by-laws appropriating money to this end. The Provencher (Old Broadway) Bridge is to be removed and a modern bridge with a lifting span is, at an estimated cost of \$600,000, to be installed in its place. This structure, in addition to providing accommodation for foot traffic, will contain a 60-ft. roadway carrying two lines for street cars. The Marion Street (Old Norwood) Bridge is to be strengthened and remodelled. St. Boniface is connected with Winnipeg by the Winnipeg Electric Railway Company, on which there is a five-minute service. The Electric Railway Company, acknowledging the present needs and the future possibilities of St. Boniface, have during the past year greatly extended and improved the service. The two principal avenues have been double-tracked and extensions laid and operated on two other important streets. It is confidently expected that 1913 will see the system extended south of St. Vital, where the Manitoba Government is erecting an agricultural college, and east to the great Union Stockyards, possibly also to Transcona, two miles east of the St. Boniface city limits, where the shops of the National Transcontinental Railway are situated.

St. Boniface to-day covers 3,025 acres, but its area in the near future is likely to be largely increased as the adjoining municipality of St. Vital have expressed a wish to be annexed to St. Boniface. Both Councils are favourable to the project and a committee from both bodies are meeting to arrange details of the fusion, which will most probably be ratified by the ratepayers of both municipalities.

Should this project be consummated, an area of 1,200 acres will be added to the municipality of St. Boniface.

The city now includes over 16 miles of paved streets, mainly bitulithic, and 30 miles of pavements, mostly concrete.

The principal church of St. Boniface is, of course, the Roman Catholic Cathedral. This edifice, which cost over \$500,000 to construct, is well situated in a commanding position overlooking the river. To be found within its precincts is the grave of Louis Riel, the famous rebel of the Red River Rebellion. St. Boniface is the seat of the Roman Catholic Archbishop, and possesses an orphanage recently completed at a cost of \$450,000.

THE ALASKA BEDDING COMPANY, LTD.

Affiliated to the Alaska Feather and Down Company, Ltd., of Montreal, one of Eastern Canada's prominent manufacturing companies, the Alaska Bedding Company, Ltd., of Winnipeg, occupies an enviable position in the industrial life of the West. The company commenced business in 1904, its authorized capital now being \$200,000 of which \$107,000 is paid up. The first premises in which manufacturing operations were carried on consisted of a small building which the company rented in Princess Street, but during the past eight years the growth of the business has necessitated continuous increases in the plant and equipment of the factory, which is now many times larger than the original building.

Every description of mattress is manufactured, and a speciality is made of iron beds. The manufacture of this class of goods had been entirely neglected in Western Canada until the Alaska Bedding Company, Ltd., undertook it. It is not surprising, therefore, that an exceptionally large trade has been built up, despite the difficulty of obtaining skilled labour, a hindrance which it has suffered in common with many other industrial undertakings in Western cities.

The plant is as modern as it is possible to obtain, a large amount of automatic machinery having been imported from the United States. The cotton department, however, is equipped with English felting machinery, which has been found to do the work more efficiently and economically than other kinds. Raw material is obtained

from England, Scotland, the United States, and Eastern Canada. So far the company has not found it necessary to manufacture anywhere but at Winnipeg. Its trade in the West is very large, however, and warehouses have been established at Calgary and Regina. Shipments are made as far west as Vancouver, and practically as far north as the railway will allow.

The officers of the company are Mr. J. H. Parkhill, president, and Mr. Fred J. Baker, secretary-treasurer, while the directorate consists of Messrs. J. H. Sherrard, W. R. Allan, J. S. Hough, K.C., A. W. McMaster, and Z. G. Simmons.

ALLAN, KILLAM, AND MCKAY

Messrs. Allan, Killam, and McKay, established in 1893, undertake all manner of loans and general investments, do a large business in city real estate and farm lands, and look after the interests of many insurance companies. The firm was founded by Mr. William Rae Allan, who commenced business in a comparatively modest way in the Ottawa Bank Building, afterwards moving to the Grain Exchange Building, now known as the Chambers of Commerce. Even in those days the industrial future of Winnipeg was widely recognized, and the manner in which Mr. Allan's affairs progressed reflected an optimism indulged in alike by his clients in foreign countries and his fellow-citizens. The Grain Exchange was rapidly supplanted as the headquarters of the firm by the Bank of British North America, and this building again was vacated for the Bulman Block. Here the firm remained for seven years, and at the expiration of that period erected a permanent six-storied structure on Main Street, where the offices of the company are now situated.

Mr. Allan took into partnership Messrs. Killam, Lang, and McKay, the firm being known for some years as Allan, Lang, Killam, and McKay. This title was retained until the decease of Mr. Lang in 1909, when the firm first became known as Allan, Killam, and McKay. In the year 1910 a fourth partner entered the business in the person of Mr. Laurence W. Hicks, but no further change was made in its title.

The operations of the firm are undertaken by six separate departments—fire and miscellaneous insurance, real estate, loans, financial, and stock-broking, each of which is in charge of an expert.

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Probably no firm in Canada represents a stronger body of insurance companies than Messrs. Allan, Killam, and McKay, who are prepared to cover practically every manner of risk. Among others they hold the agency for the Royal Insurance Company, the United States Fidelity and Guarantee Company, the Ocean Accident and Guarantee Corporation, the Union Assurance Society, the Sun Insurance Office, the Scottish Union and National Insurance Company, the Home Insurance Company, and the Insurance Company of North America. Mr. Allan is himself the agent for Lloyd's and chairman of the local advisory board of the London and Lancashire Life and General Assurance Association.

In financial operations the firm has proceeded along conservative lines, judging investments rather by the security they afford than by the profits they promise. They are now taking care of very considerable sums on behalf of clients living in European countries who cannot afford the time for personal visits. In addition the firm act as agents and managers for the Scottish Canadian Mortgage Company and the London and British North America Company.

The firm have not confined their energies entirely to the real estate of Winnipeg but have interests in many other parts of the Dominion. The development of their Western business has necessitated the establishment of a branch in Edmonton, while their various enterprises in the New Ontario district are directed by a branch at Fort William.

Owing to his long acquaintance with conditions in the West, Mr. W. R. Allan's services have been requisitioned by many other enterprises, among which the Canadian Mortgage Association, the Union Bank of Canada, and the Canadian Consolidated Rubber Company claim him as a director. He is also the general Western agent of the Allan Steamship Company, Ltd.

Mr. Robert McKay is a native of Scotland, but has been a resident of Winnipeg since 1881. He became identified with Mr. Allan early in his business life.

Mr. George K. Killam was born in Winnipeg, and entering the legal profession, was called to the Bar in Manitoba in 1903. He is a son of the late Hon. A. C. Killam, former Chief Justice of Manitoba, and afterwards chairman of the Canadian Railway Commission. Mr. L. W. Hicks is a

native of Mitchell, Ontario. During his early business career he spent eight years in the service of the Grand Trunk and Canadian Pacific Railways, afterwards entering the insurance world and becoming branch manager of the London and Lancashire Life Assurance Company in Winnipeg in 1904. He entered the employ of Allan, Killam, and McKay in 1906, and was shortly afterwards made a partner and director.

AMES-HOLDEN McCREADY, LTD.

The amalgamation of Ames-Holden, Ltd., and James McCready, Ltd., which occurred in 1911, attracted considerable attention in manufacturing circles. For over 40 years these companies had been established in Montreal, where they were engaged in the manufacture of boots and shoes of every description, and each had built up a very extensive business despite the competition of the other. For some time, however, the advantages to be derived from amalgamation had become increasingly evident, and it was eventually decided to unite the two concerns and form one company. Accordingly in 1911 Ames-Holden McCready, Ltd., was incorporated with a capital of \$7,000,000.

The company now has three factories in Montreal, and its trade extends throughout Canada. Manufacturing operations have not yet been undertaken in any other city, but a chain of warehouses stretching across the continent provides adequate facilities for the economical distribution of the company's goods. The Maritime provinces are served by a warehouse at St. John, N.B.; at Toronto a branch copes with the extensive trade of Ontario; and throughout the West warehouses at Winnipeg, Edmonton, Calgary, and Vancouver are making ever growing demands upon the capacity of the factories. The company also holds various agencies for rubber goods, but does not manufacture them.

Of the Western branches of the company that at Winnipeg takes precedence in point of magnitude and turnover. It is under the management of Mr. A. L. Johnson, who has been connected with the firm of Ames-Holden, Ltd., for 25 years. The president of the company is Mr. D. Lorne McGibbon. Mr. Clarence N. Smith, of Montreal, is the general manager.

BOULTER AND WAUGH

The firm of Boulter and Waugh, which manufactures furs, hats, caps, sheep-lined coats and similar goods, has for the past fifty years steadily built up a Canadian trade. Fifty years ago the demand for such goods as the firm manufactures, beyond the more populated districts in the east of Canada, was confined to the few hardy pioneers who were undertaking the initial development of Winnipeg and the agricultural country that surrounds that city. With the great rush of immigration to the West, however, the demand for warm clothing grew with considerable rapidity, and, from their headquarters in Montreal the firm soon found it a matter of some difficulty to cope with their trade. Accordingly a branch was established at Winnipeg, and afterwards sample rooms were acquired in the larger of the other Western cities. No fewer than 22 travelling representatives are employed, 11 of them attending to the firm's customers to the east of the Great Lakes and 11 looking after the rapidly increasing trade of the West.

Messrs. Geo. Boulter and William Waugh are respectively the president and vice-president of the firm, and Mr. F. Cooper carries out the duties of secretary-treasurer. Its affairs at Winnipeg are in the hands of Mr. R. C. Lawrence.

BOYCE CARRIAGE COMPANY, LTD.

Established in Winnipeg in 1877, some years before the arrival of the railway, the Boyce Carriage Company, Ltd., has made good use of the advantages accruing from its priority in the Western field, and in point of magnitude is excelled by few similar concerns in the West. At the commencement the market for the company's goods was necessarily limited by the poor transportation facilities and but four hands were necessary to cope with the demand. To-day 60 men are engaged, and even with this staff it is not easy to keep pace with Western requirements. The company is capitalized at \$150,000, of which \$58,000 is paid up. The premises include a five-story brick-built factory furnished with a complete equipment of modern machinery, and spacious showrooms and offices.

Practically every description of vehicle is manufactured in the factory, although a speciality is made of fire-hose wagons. The company has been very successful in

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this branch of its business, and in addition to manufacturing fourteen wagons for the fire brigade at Winnipeg has supplied nearly all the larger Western cities. Another branch that is rapidly gaining prominence is the construction of motor and electric trucks. Nearly all firms of any importance in the West use power-driven vehicles for distributing purposes, and the Boyce Carriage Company, Ltd., is considering very extensive additions to the machinery used in their manufacture.

G. L. BRODIE & CO.

The firm of G. L. Brodie & Co., of Winnipeg, in addition to city properties deals in Western farm lands and town site properties, but confines its operations principally to inside properties. The firm claims to limit its operations to strictly investment propositions as distinguished from speculation.

Mr. G. L. Brodie, who founded the company about two years ago, was for some time in the employ of the Immigration and Publicity Department of the Alberta Government. His duties in this connection necessitated frequent journeys throughout the West and so enabled him to acquire a valuable insight into real estate conditions. Again, while in the Winnipeg office of the Department he was enabled to learn much that has subsequently proved of value to him regarding development in that city.

Mr. Brodie, in addition to his interest in the business mentioned above, acts as secretary to the British Western Investments Company of Canada, Ltd., a company incorporated under the Joint-Stock Companies Act of Manitoba, and formed with the object of inducing outside capitalists to invest in the West. It devotes most of its attention to business connected with mortgages and mortgage bonds and places money on commission for investors. This company, it may be added, does not buy and sell real estate.

BROWN AND VALLANCE

This architectural firm was one of the five selected by the Manitoba Government from the 65 competitors for the designing of the new Parliament Buildings. They have been established in Winnipeg for two years and have undertaken a considerable amount of work, erecting among other buildings

the new warehouse for the Canadian Fairbank Morse Company. In the West they have designed the new University of Saskatchewan, costing between \$3,000,000 and \$4,000,000, to which large additions are contemplated. Other buildings which Messrs. Brown and Vallance have designed include, in Regina, the new Regina College, to cost \$1,000,000, and the Canada Life Building; in Calgary, the 10-story block for the *Calgary Herald* and six-story fire-proof buildings for the Canada Life Assurance Company and Merchants Bank; and in Saskatoon, the new City Hospital, costing \$500,000, the King George Hotel, which is a fine example of modern Gothic work, and the Cairns Department Store.

In Winnipeg the firm are architects for a new 15-story sky-scraper, and they have designed other large buildings the contracts for which are pending.

A Calgary office has been opened and the firm has representatives at Saskatoon and Regina. Mr. E. E. Sheppard, at Winnipeg, manages the firm's Western business.

CAMPBELL, PITBLADO, HOSKIN, AND GRUNDY

CAMPBELL, PITBLADO, BENNEST, AND HAIG

This firm of barristers and solicitors, one of the largest and most important in Western Canada, was founded in Winnipeg in 1883, when the Hon. Colin H. Campbell, K.C., M.P.P., at that time Mr. Campbell, entered into partnership with Mr. H. E. Crawford. On the death of Mr. Crawford ten years later, Mr. Isaac Pitblado and Mr. A. Erskine Hoskin entered the firm. In the same year, 1903, Messrs. H. P. Grundy, E. H. Bennest, J. T. Haig, and P. J. Montague, all Bachelors of Art of Manitoba University, were made partners, and the above title adopted.

The firm's practice is largely of a mercantile, conveyancing, and financial character, among its clients being such corporations and companies as the Bank of Hamilton, Toronto General Trust Corporation, Mutual Life Insurance Company of Canada, Landed Banking and Loan Company, Royal Loan Company, and the Home Investment and Savings Association.

The senior partners of the firm are men who have attained considerable prominence in the legal profession. The Hon. Colin H. Campbell, M.P.P., Mr. Isaac Pit-

blado, and Mr. A. Erskine Hoskin are all King's Counsels, the two latter gentlemen having the degrees of LL.B. and B.C.L. respectively. The Hon. Colin H. Campbell represents the constituency of Morris and is Minister of Public Works in the Provincial Government.

CANADIAN CITY AND TOWN PROPERTIES, LTD.

The rapid growth of industrial concerns in Canada constantly calls for the erection of large buildings for office space and other purposes. To meet this demand the Canadian City and Town Properties, Ltd., was formed in Liverpool, England, in 1910, the Canadian office being opened in Calgary in October of that year. In April, 1911, the offices were moved to Winnipeg, where they are still to be found. Since then a branch office has been opened at Moose Jaw.

Possibly the company's undertakings can best be gathered from a statement of a few of the properties which it has erected during the past 12 months. These include a four-story building of reinforced concrete at Moose Jaw, a three-story brick building at Regina, two-story brick buildings at Weyburn, Moose Jaw, Swift Current, Regina, and Saskatoon, and smaller buildings at Swift Current, Le Pas, Lacombe, and Weyburn. Blocks have already been constructed in the following towns: Alberta, Lacombe (one building); Saskatchewan, Swift Current (two buildings), Moose Jaw (two buildings), Regina (two buildings), Weyburn (two buildings), Saskatoon (two buildings), Cudworth (one building); Manitoba, Le Pas (22 buildings, consisting of offices, stores, and cottages). The Winnipeg block, in which the company's offices are situated, is known as the Cadomin Building, and is the property of the Canadian Dominion Development, Ltd., one of several companies affiliated with this company.

The company own the district known as Boulevard Heights, situated about 1½ miles from the centre of Moose Jaw. Here about 800 acres are divided into blocks of 25 and 50 ft. frontage, the greater number of which have been sold. A car line running through the property is being constructed at the expense of the company.

Mr. F. L. Hammond, the managing director, resides usually at the company's head office in Liverpool. Mr. Edward Baillie, the manager for Canada, resides in

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Winnipeg. Mr. Baillie was born in Edinburgh, Scotland, and came to Canada in 1890. Previous to his connection with the concern under notice he was for about 14 years auditor to the West Kootenay Power and Light Company.

THE CANADIAN CONSOLIDATED RUBBER COMPANY, LTD.

The Canadian Consolidated Rubber Company, Ltd., whose head office is in Montreal, province of Quebec, are selling agents for the Canadian Rubber Company of Montreal, Ltd., the Granby Rubber Company, Ltd., the Merchants Rubber Company, Ltd., the Berlin Rubber Manufacturing Company, Ltd., the Maple Leaf Rubber Company, Ltd., the Dominion Rubber Company Ltd., the Berlin Felt Boot Company, Ltd., the Elmira Felt Company, and the Kimmel Felt Company, Ltd. These companies manufacture and sell a most extensive range of rubber goods, which include all general mechanical lines, plumbers' supplies, textile goods, raincoats, oil clothing, drug sundries, rubber and felt footwear, automobile tyres and tubes, carriage, motor, truck, and bicycle tyres.

The company has a chain of warehouses and supply depots throughout the Dominion of Canada from St. John, N.B., in the East to Victoria, B.C., in the West. The divisional office and supply depot for Western Canada is located at Winnipeg, where a staff of over 150 hands is employed, and where the company is at present building a large warehouse in the western manufacturing portion of the city. This building is of the very best concrete and mill construction and measures 100 by 300 ft. The basement and ground floor were only completed this year, and give warehouse space of 60,000 sq. ft. It has been so constructed that additional stories can be added without interfering with the operation of business, and it is expected that next year further floors will be added to meet the ever increasing demand for the goods manufactured by the company. It is served by an individual spur track of the Canadian Pacific Railway, and will enable the company to carry very large stocks at this point in order to supply their Western branches at Regina, Saskatoon, Calgary, Edmonton, Vancouver, and Victoria, as well as numerous jobbers throughout the West.

The Winnipeg division is under the

management of Mr. A. N. Douglas, while Mr. Chas. Holden is the Western sales manager.

CANADIAN EMPIRE, LTD.

The firm transacting business under the above title is interested in subdivision properties at Souris, Manitoba, and Weyburn and Moose Jaw, Saskatchewan. Lots in these properties are sold on convenient terms at prices ranging from \$100 to \$150 each. As part of an enterprising policy, the firm offer to send purchasers of property to the value of \$500 on a tour of inspection at their expense, and to refund money expended upon property which after inspection is not considered satisfactory.

A number of agents at different points keep the firm advised as to local conditions, and we understand branch offices are being opened in the cities of Montreal, Toronto, and Detroit, Michigan.

The company is composed of Mr. Walter W. Powers, Thomas L. Arnett, James Grant, and Thomas J. Buckley, and the head offices are situated at Winnipeg.

THE CANADIAN H. W. JOHNS-MANVILLE COMPANY, LTD.

The Canadian H. W. Johns-Manville Company, Ltd., a company which manufactures asbestos, mastic flooring, cold storage, and electrical insulation roofings and asbestos packings, is probably one of the largest of its kind in the world. It has been firmly established for many years in the United States, under the name of the H. W. Johns-Manville Company, Ltd., but it was not until 1909 that a branch was opened in Winnipeg. At that date a desk in the Builders Exchange sufficed for the company's purpose, but it soon became abundantly evident that the business would require a warehouse of substantial proportions. A building covering 35,000 sq. ft. was erected. The staff now employed consists of 50 hands. All of the magnesia used by the company's factories in the United States is obtained from Quebec, where 500 men are employed in the mines.

The head office of the company is situated in New York, and factories have been built at Milwaukee, West Milwaukee, Brookland, N.Y., Nashua in New Hampshire, Newark, N.J., and Lockport, N.Y. A new factory is now in course of construction in the

neighbourhood of Boundbrook, N.J., which will cost \$2,000,000 and employ from 5,000 to 8,000 hands. The company is already formulating plans for the construction of factories in the industrial centres of Canada.

THE CARTER HALLS ALDINGER COMPANY, LTD.

The buildings erected by the Carter Halls Aldinger Company, Ltd., include warehouses, engine houses, shops, and some of the largest office buildings in Western Canada. The company has done a considerable amount of work for the Canadian Pacific Railway and its competitor, the Grand Trunk Pacific, and it would be difficult to instance a single type of building of any dimensions with the construction of which the Carter Halls Aldinger Company has not, at some quite recent date, been connected.

The firm was established in 1907 and has a capital of \$250,000, of which \$100,000 has been subscribed. Its operations extend throughout Western Canada, and its organization is such that there is no branch of its work which it is not prepared to undertake with the unaided assistance of its own staff. Competent engineers, attached to the staff, constantly prepare plans for important buildings, and when, as is frequently the case, drawings for some contract are received from an outside source, they are carefully checked by some of the experts in the company's service. By this method, errors which may have escaped the designer's notice are detected and rectified before any loss is incurred. Contracts are taken bulk tender, or percentage of cost plus a fixed sum. Considerable work has been entrusted to the company on the latter basis, especially on rush work, where plans and specifications have not been completed at the time of starting the work.

Since its operations have been conducted in all parts of Western Canada, the company claims, probably with good reason, to be possessed of very valuable data concerning building conditions in different districts. This information the company is always prepared to place at the service of parties interested.

From a long list of important buildings recently erected by the Carter Halls Aldinger Company, Ltd., the following may be taken as likely to interest the reader who knows Winnipeg and the West: The

WINNIPEG AND ITS ENVIRONS

McArthur Building, twelve-story offices, Winnipeg; the Sterling Bank Building, eight-story offices, Winnipeg; the Confederation Life Building, ten-story offices, Winnipeg; the Winnipeg Street Railway Building, ten-story offices, Winnipeg; the Manitoba Free Press Building, Winnipeg; the Hudson's Bay Departmental Store, Calgary; the Canada Building, eight-story offices, Saskatoon; and the important subways beneath the tracks of the Canadian Pacific Railway at Calgary and Edmonton.

The following are the officers of the company: president and general manager, Mr. W. H. Carter; vice-president and engineer, Mr. A. H. Aldinger, C.E.; and secretary-treasurer, Mr. Frank E. Halls.

CATTLEY LOANS AND FINANCE, LTD.

The Cattley Loans and Finance, Ltd., specializes in well-situated suburban property, more particularly along the Red River to the south of Winnipeg. It was incorporated in 1910, and since that date has sold property to the value of \$250,000 in this locality. This figure, however, which serves to illustrate the interest which investors have taken in Winnipeg suburban property, does not include transactions carried out in the business districts of the city.

The company has a share capital of \$100,000, the capital being found by the directors and their friends. A considerable business is done by the firm in the investing of funds on behalf of clients. The management of the concern is in the hands of Englishmen, and the company is on the Winnipeg Real Estate Exchange. The president, Mr. J. H. Cattley, was formerly secretary of the Winnipeg Oil Company, and has had much experience in business in Winnipeg. The vice-president and manager, Mr. R. Cattley, has been in Winnipeg 19 years, and is well posted on values in and around Winnipeg and in Manitoba farm lands. The secretary, Mr. P. J. Henry, is well known in business circles in Winnipeg.

THE CODVILLE COMPANY, LTD.

The history of the Codville Company, Ltd., dates back to 1872, when the foundations of the company were laid in Quebec by Messrs. Thompson and Codville. For many years the business was conducted under the title of Thompson and Codville,

but in 1897, the year of Mr. Thompson's death, the name was changed to Codville & Co. Nine years later, Mr. Georgeson having meanwhile been admitted as a partner, the business was incorporated as a limited company under the title of the Codville Georgeson Company, Ltd. The present title was assumed in 1908, when Mr. Georgeson retired.

More important and far reaching in its effect, however, was the change of location made in the early eighties. The importance of Winnipeg was already recognized by many large Eastern Canadian firms who had established branch factories and warehouses in the Western metropolis, but Thompson and Codville signalized their belief in the city by making Winnipeg their headquarters. Doubtless so drastic a change was not made without misgivings, but these were speedily dismissed and the company is to-day reaping a rich reward for its enterprise. The company was first established in Winnipeg with a capital of \$20,000, a sum that has since been increased to \$1,000,000, \$900,000 being fully subscribed.

The business as at present conducted consists chiefly of wholesale dealings in groceries and provisions, in which department the company acts as sole Western agents for the H. J. Heinz Company, of Pittsburg, Pennsylvania.

During recent years the manufacture and packing of teas, coffees, baking powders, extracts, spices, &c., has been undertaken with great success. The annual turnover of the combined manufacturing and wholesale businesses amounted in 1912 to about \$5,250,000. Branches have been established at Brandon, Moose Jaw, and Saskatoon.

The president of the company is Mr. John J. Codville, the vice-president, Mr. H. Bruce Gordon, and the secretary-treasurer, Mr. A. W. Chapman. These gentlemen, with Mr. Lawrence Bonny, form the directorate.

C. W. COOPER

Mr. Cooper, who established this business in 1909, specializes in Winnipeg city property and suburban acreage. This form of investment, on account of the steady increase in population which has marked the advance of the chief distributing centre of Central Canada, has much to recommend

it. Mr. Cooper, it may be remarked, is especially interested in Transcona, an industrial centre of Greater Winnipeg, where sites with railway trackage, well suited for manufacturing purposes, may be obtained. In his efforts to develop this important district Mr. Cooper receives the active assistance of the Transcona Board of Trade, an organization thoroughly alive to the industrial possibilities of that locality. Transcona, it may be remarked in passing, is the site of the magnificent repairing shops erected by the Dominion Government at a cost of \$6,500,000 for the use of the National Transcontinental section of the Grand Trunk Pacific Railway. The Canadian Pacific Railway has also laid down many miles of track at this point.

Whilst actively interested in the development of real estate, Mr. Cooper transacts a considerable business in investments on behalf of clients, it being possible to secure without risk a far higher return from capital judiciously invested in Canada than from investments within the limits of Great Britain.

Mr. Cooper, who was born in Montreal, has resided in Winnipeg for 12 years, during which time he has been intimately and continuously connected with real estate movements.

COYNE, BOND, AND HAMILTON

The firm of Coyne, Bond, and Hamilton, barristers and solicitors, Winnipeg, was established under its present title in 1912, the senior partner, Mr. Coyne, having previously been a member of the firm of Aikins, Fullerton, Coyne, and Foley, and Mr. Bond having previously been solicitor for the Canadian Pacific Railway Company at Winnipeg. Associated with Messrs. Coyne, Bond, and Hamilton are also Messrs. Galloway and Martin.

Mr. J. B. Coyne was born at St. Thomas, Ontario, and educated at Upper Canada College, Toronto, and Toronto University, where he took the degree of B.A. in 1901. After studying law at Osgoode Hall, Toronto, he was called to the Ontario Bar in 1904. After a few months' practice at St. Thomas, Ontario, he came to Winnipeg, and was called to the Manitoba Bar in 1905, becoming assistant solicitor for the Canadian Pacific Railway Company at Winnipeg in the same year, later becoming a member of the firm of Aikins, Robson, Fullerton,

THE PRAIRIE PROVINCES OF CANADA

and Coyne and Aikins, Fullerton, Coyne, and Foley.

Mr. A. S. Bond, a native of Ontario, graduated from the law school at Osgoode Hall in 1903, and was called to the Ontario Bar in the same year. Coming shortly afterwards to Winnipeg, he was called to the Manitoba Bar in 1904, and became assistant solicitor to the Canadian Pacific Railway Company at Winnipeg (1904-8) and solicitor thereto from 1908 to 1912.

Mr. F. K. Hamilton was born at Stratford, Ontario, educated at the Collegiate Institute, Stratford, and Manitoba University, Winnipeg, taking the degree of LL.B. in 1911; was called to the Bar in the same year and practised with Aikins, Fullerton, Coyne, and Foley for a short time until he joined the present firm.

Mr. John Galloway was born in England and educated at Charterhouse and Magdalen College, Oxford, took his degree of B.A. of Oxford University in 1903, and was called to the Bar at the Inner Temple in 1906. After some years' practice at the Chancery Bar in London and the Palatine Court of Lancaster, he came to Winnipeg, where he was called to the Bar in 1912.

Mr. William Martin was educated at Upper Canada College, Toronto, and Toronto University, taking his B.A. degree there in 1908. He studied law for two years at Winnipeg and then for two years at Balliol College, Oxford, taking his B.C.L. degree there with honours in 1912. He was called to the Manitoba Bar in 1912.

DANGERFIELD AND DOOLITTLE

The firm of Dangerfield and Doolittle, of Winnipeg, has been engaged during the past seven years in a general real estate business, handling Winnipeg city property, suburban acreage, and improved and unimproved lands throughout the three provinces of Manitoba, Saskatchewan, and Alberta. During these years the firm has sold some large tracts of land for colonization purposes. At present, however, there are but a few of these tracts remaining.

The firm is composed of H. A. Dangerfield and J. Doolittle. Since 1908 Mr. Edward Henselwood has been associated with the firm as manager of the city business.

Messrs. Dangerfield and Doolittle, who have pursued a conservative policy in the matter of investments, enjoy the distinction of having made many profitable investments for outside clients, many of

whom have transacted business with the firm for several years past.

During the past year the firm has organized a company for the purpose of negotiating loans and purchasing Winnipeg city property and suburban acreage. This company is known as the Provincial Investors, Ltd., and is primarily organized to give the small investor an opportunity of purchasing a better grade of property than he could afford unaided.

The firm holds a membership in the Winnipeg Real Estate Exchange.

DOMINION TRUST COMPANY

So short a time has elapsed since the creation of trust companies that many people are still unfamiliar with their operations and value. Until less than 30 years ago the dying man had no alternative but to choose a friend or relative to whom to designate the handling of his estate for those dependent upon him. It occasionally happened, however, that the friend was unworthy of confidence. Another cause of loss to estates was the fact that frequently the carefully chosen friend might die at the same time or shortly after the decease of the one naming him executor, in which case the Courts appointed another individual in his stead, who for various reasons might be quite undesirable. In this way large responsibilities were frequently placed upon people without the necessary experience. This fact, coupled with occasional fraud upon the part of the executor, resulted in some instances in one half of the value of the estate being lost before the beneficiaries received anything. The need that consequently arose for an ideal executor, trustee, and confidential and financial agent was met by the formation of trust companies. The corporation was, of course, less tempted to act dishonestly than the individual, since, quite apart from the unsullied reputation which is essential to the successful conduct of such a company, the directors could not personally benefit to any large extent by acting fraudulently with the funds of a client. Again, beneficiaries under a will have no compunction in suing a company should it err at any time, and the large capital and surplus funds of a company can be attached to make up for any defalcation.

For these and various other reasons trust companies as a whole have been found to give the utmost satisfaction in

their office as executor, trustee, and confidential agent for the investment of funds.

The business undertaken by trust companies naturally varies in different instances. Whilst some act practically as real estate agents, others, such as the Dominion Trust Company, confine their attention to fiduciary business such as acting as executor and trustee under wills, or as agents for others so appointed; as guardians of the estates and persons of infants or incompetents, as liquidators, as registrars, as transfer agents, as trustees for bondholders, as agents for individuals who desire to be relieved of financial responsibilities or who may desire to take advantage of the opportunities in the locality in which the trust company is situated, and as a safe depository for funds, on which 4 per cent. is allowed.

The Dominion Trust Company, which was organized in 1902, is a strict trust company, and confines its work exclusively to such occupations as come under that heading in its best sense. The extensive operations undertaken by the company may be gathered from the following particulars:

Paid up capital and reserve ...	\$2,800,000
Assets	4,973,000
Extent of trust under administration	6,218,000
Value of securities held by the company as trustees for bondholders	25,000,000

The offices of the company are situated at Vancouver, Victoria, New Westminster, Nanaimo, Calgary, Regina, Winnipeg, Montreal, London (England), and Antwerp (Belgium).

The principal officers of the Company are: Wm. H. P. Clubb, president; W. D. Brydon-Jack, M.D., and F. R. Steward, vice-presidents; Wm. R. Arnold, managing director.

An advisory committee meeting in London is constituted by: C. G. Colmer, C.M.G., Sir Gilbert Parker, M.P., C. W. Twelves, Antwerp, Belgium.

JOHN DEERE PLOW COMPANY, LTD.

The wonderful advance that in late years has taken place in the manufacture of agricultural machinery too frequently fails to receive the recognition to which, as a prime factor in the development of Canadian land, it is justly entitled. It can, in fact, be



DOMINION TRUST COMPANY, WINNIPEG.

1. HEAD OFFICE IN VANCOUVER.

2. INTERIOR OF WINNIPEG OFFICE.

3. LONDON OFFICE.

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claimed by the manufacturers of mechanical farming implements that their work has made possible the cultivation of many thousands of acres which in the days of horse traction could never have been brought under development. For this reason the brief statement which we append regarding the John Deere Plow Company, Ltd., of Winnipeg, is of more than purely commercial interest. This company first made its appearance in Winnipeg on January 1, 1908, when the business of Fairchild & Co., Ltd., was taken over. Having at its back the great manufacturing corporation of Deere & Co., of Moline, Illinois, the local company was enabled to conduct operations on a somewhat extensive scale, the annual turnover in Western Canada now running to between \$3,000,000 and \$4,000,000. The relationship between the John Deere Plow Company and the Deere Company is not without interest. The Winnipeg company is, it should be noted, an independent concern with a fully paid capital of \$1,000,000. In common, however, with 32 similar selling organizations, situated in various parts of Canada and the United States, it markets a portion of the products of the Moline Corporation which, with a fully paid capital of \$50,000,000, is one of the leading corporations engaged in the manufacture of agricultural implements. As illustrating the intimate relationship which exists between the Moline and Winnipeg companies it may be mentioned that the president of the former Fairchild Company became, when that business was taken over, the vice-president and managing director of the John Deere Plow Company, Winnipeg, and director of Deere & Co., Moline, Illinois.

The Winnipeg company, however, does not restrict its operations to the manufactures of the Moline company, stock raising implements and disc harrows, constructed by J. Fleury and Sons, of Ontario; Canadian wagons and sleighs of the Port Arthur Wagon Company; buggies and cutters from the works of the Canada Carriage Company, at Brockville, Ontario, being also handled by the Winnipeg house.

The Deere Company's goods stocked include harvesting machinery, ploughs, American wagons, disc harrows, and drills. These are manufactured at Moline, Illinois, and Horicon, Wisconsin.

Branches of the business controlled from

the Winnipeg headquarters are to be found at Dauphin, Regina, Saskatoon, Edmonton, Calgary, and Lethbridge. Each branch carries a full stock of every description of farm implement for which during the last 40 years the North-West market has shown a demand. Buildings erected by the company since 1908 include those at Saskatoon, \$150,000; Edmonton, \$30,000; Calgary, \$150,000; and Lethbridge, \$50,000. A contract has recently been let for a building at Regina 125 ft. square and six stories in height, costing \$150,000.

The very considerable volume of business transacted by the Winnipeg organization and its branches will soon be catered for by the branch manufacturing concern which the Deere Company recently erected at Welland, Ontario.

The premises in use in Winnipeg comprise offices 132 by 90 ft. in extent and seven stories in height, as well as large warehouses with railway trackage.

Some indication of the growth which has occurred in the business during the past four years is afforded by the fact that the staff employed in Winnipeg has increased in number during that time from 25 to 175.

Of the Deere Company of Moline, Mr. William Butterworth is president. Of the John Deere Company, Ltd., of Winnipeg, Mr. H. W. Hutchinson is president, Mr. D. Drechner secretary and sales manager, and Mr. R. H. Lord treasurer.



E. L. DREWRY, LTD., REDWOOD FACTORIES

Under the control and supervision of E. L. Drewry in its earlier stages, there has grown up in what was once a suburb of Winnipeg, but is now a densely settled district of the city, an industry that ranks among the most important in Western Canada, and which in its growth aptly illustrates the extraordinary progress that has been made in the industrial development of the West. It was in 1877, before the advent of the railway, that Mr. Drewry first engaged in the manufacture of ale and stout, lager beer being added a few years later. The start was of the humblest description, and even the enthusiastic proprietor could hardly have foreseen the proportions to which his business was destined to grow. In those days when the neighbouring population was of the scantiest and there was no railway to bring outlying districts within reach, the opera-

tions had necessarily to be kept within the narrowest bounds, and the plant was proportionately small. The only driving power that Mr. Drewry possessed consisted of one horse, and on this animal devolved the duty of grinding malt, pumping water, and even delivering the finished product to the home of the consumer. To-day, however, a thoroughly modern plant is driven by a battery of steam boilers, aggregating nearly 400 horse-power, together with a 250-h.p. electric motor generator, operated by current obtained from outside sources. The hands have increased, despite the many labour-saving appliances, to more than 300 men; and for the distribution of the product in the city alone, over 50 horses are now required. The Redwood stables are amongst the finest in Western Canada.

It is essential in the manufacture of beer to ensure its purity and keeping qualities. With this in view, every modern device likely to bring about the desired result is called into requisition. Glass enamelled tanks are employed in which to store and age the beer. The bottling house is one of the most complete in the Dominion.

While ales, stout, and lager beer are the leading products of the factory, the manufacture of aerated waters is another branch of the business which has assumed considerable proportions.

The demand for the "Golden Key" brand, as the product of the Redwood factory is known, has steadily increased, necessitating from time to time the enlargement of the plant. As evidence of the efforts in the direction of a pure product, it is interesting to note that in those processes in which the remotest danger of metallic contamination is likely to occur, silver-lined machinery is employed. Scrupulous cleanliness is observed throughout the entire factory.

In connection with its head factory, the firm has also established cold storage warehouses at the principal points in the three Prairie Provinces, where ales and beer may be stored while awaiting transit to the consumer.

A duplicate plant has recently been installed whereby the capacity of the brewery is doubled.

In the early days of the business Mr. Drewry was ably assisted by his brother, Mr. F. W. Drewry, and later by his sons, Charles E., William S., and Harold A. Drewry.



E. L. DREWRY, REDWOOD FACTORIES, WINNIPEG.

1. GENERAL VIEW OF BREWERIES FROM EAST.

2. BOTTLING DEPARTMENT.

3. BARRELLING DEPARTMENT.

THE PRAIRIE PROVINCES OF CANADA

A few months ago the business was incorporated, with a paid up capital of \$1,500,000—the officers being E. L. Drewry, president; F. W. Drewry, vice-president; Charles E. Drewry, managing director.

THE DUNLOP TYRE AND RUBBER GOODS COMPANY, LTD.

The Winnipeg branch of the Dunlop Tyre and Rubber Goods Company, Ltd., whose head office is at Toronto, Ontario, was established in the latter part of 1906, when the company's Western business had assumed such proportions as to render the Eastern house unable to cope with the trade. The office which first served the company in Winnipeg was situated on Fort Street, but as business has been increasing almost at the rate of 100 per cent. each year, more commodious premises have been acquired in the Canada Building, which occupies a more central position. A staff of 15 clerks is now employed and five salesmen carry on an energetic campaign among consumers.

The goods handled are all manufactured by the company itself, and include tyres for motor-cars, motor cycles, carriages, bicycles, and motor trucks, together with every description of mechanical goods, belting, packing, &c.

GEORGE GALE AND SONS

The firm of George Gale and Sons, bed and bedding manufacturers, was established in Waterville, Quebec, in 1880. For many years the partners were content to confine their dealings mainly to Eastern Canada, but at the beginning of the twentieth century they commenced a more vigorous campaign in the Prairie Provinces. Their efforts soon began to bear fruit and in 1904 their first Western house was established in Winnipeg. It was, however, of the most modest dimensions, occupying but 3,600 sq. ft. of floor space and necessitating the employment of only three men. The succeeding changes which the firm was obliged to effect vividly illustrate the growth of its trade. The first move was made in 1907, the new premises being nearly twice the size of those they superseded. Two years later, by which time the staff had increased to 15 hands, a second change was made, this time to a building occupying 11,550 sq. ft.

In the first three instances the firm was merely a tenant. In 1911, however, permanent premises were purchased. These consist of a large three-storied building, covering a floor area of 34,320 sq. ft. The hands now employed number 45, but upon the completion of a contemplated addition to the factory will be increased to 75.

When the firm was first founded mattresses and wire mattresses formed the principal manufactures, though a large trade was done in iron bedsteads, which at that time were imported from England. In 1892, however, the firm commenced the manufacture of these goods. A speciality is made of the "Dixie No Tuft" mattress, of which the firm are the sole manufacturers in Canada. In addition to the Winnipeg house branches have been established at Montreal and Toronto.

The sole proprietor of the business is Mr. F. G. Gale, the remaining partners having died. The manager of the Winnipeg branch is Mr. R. D. Turner.

GAULTS, LTD.

The firm of Gaults, Ltd., manufactures and imports every description of dry goods, men's clothes, ladies' "ready-made" garments, and house furnishings, such as curtains, linoleum, carpets, &c.

At one time the firm, which was established in Winnipeg in 1900, was a subsidiary branch of Gault Bros., Ltd., of Montreal. In three years, however, the business had grown to such proportions that it became necessary to organize the branch as a separate company under the name of Gaults, Ltd. Since then its progress has been continuous, and although the original premises have been twice enlarged, the present warehouse being one of the finest in Winnipeg, further accommodation is badly needed and will shortly be secured. The firm is also connected with Gault Bros., Ltd., of Vancouver, and Gaults, Ltd., of Manchester, England.

The president of the company is Mr. R. W. McDougall; Messrs. James Rodger, H. M. Belcher, and J. D. Brown being vice-president, managing director, and secretary-treasurer respectively. These gentlemen, together with Mr. Leslie H. Gault and Mr. A. Hamilton Gault, constitute the board of directors.

GORDON IRONSIDE AND FARES COMPANY, LTD.

The origin of the Gordon Ironside and Fares Company, Ltd., of Winnipeg, wholesale packers, ranchers, and provisioners, dates back to 1885 when Mr. J. T. Gordon formed a partnership with the late Mr. Robert Ironside for the purpose of conducting a cattle business. At that time the cattle industry in Canada was in a more flourishing condition than it is to-day, and although no extraordinary progress was made for the first few years the firm was nevertheless able to show a steady increase in its business. In 1897 Mr. W. H. Fares was admitted as a partner, the firm's total capital then being \$30,000. In 1902 the business had attained such proportions that it was decided to convert it into a joint-stock company. Accordingly Gordon Ironsides and Fares Company, Ltd., was incorporated under a Dominion Charter with an authorized capital of \$1,000,000, of which \$724,500 was paid up. Subsequently, the authorized capital was increased to \$4,000,000, and to-day the company's paid up stock amounts to \$2,172,600, while the surplus exceeds \$655,000. These results have been derived principally from net earnings, in addition to which the company has disbursed a cash dividend at the rate of 6 per cent. per annum throughout the whole period.

It must not be supposed that this record has been achieved solely through dealings in cattle. For some years cattle ranching in the Canadian West has been steadily on the decline, as, excepting certain districts in British Columbia and Alberta, the land has proved to be far too valuable for that purpose. Accordingly the company found it advisable gradually to withdraw from the export cattle trade with its fluctuating results and to centre its activities in the packing-house business. The demands of Western Canada in this staple department have reached such proportions that this change in policy has been made permanent and extensions of the plant are already required. At present the largest markets lie between the Great Lakes and the middle West, but an increasing demand is being developed in British Columbia and elsewhere.

Upon its incorporation in 1902 the company owned merely a packing plant at Winnipeg and two smaller plants at Kenora and Fort William, while it operated ranches, under lease only, at Willow Creek, Strath-

WINNIPEG AND ITS ENVIRONS

more, Medicine Hat, and Maple Creek. Its progress during the past ten years is strikingly evidenced by a comparison of these properties with those now owned by the firm. The principal packing house is still situated at Winnipeg, but in size and equipment it far excels the house in which the company conducted its business in 1902. Together with the head office it covers about 8 acres and is splendidly situated for shipping purposes, being provided with excellent switching facilities on the Canadian Pacific Railway. At Moose Jaw there has just been completed an equally well equipped plant of smaller dimensions by which the local demand is satisfied. Storage plants are maintained at Kenora, Fort William, Port Arthur, Rainy River, Sault Ste-Marie, Regina, and Saskatoon. All of these, with the exception of Kenora and Rainy River, are supplied with complete ammonia refrigerating equipments, those at Saskatoon and Regina being particularly modern and complete. Plans for certain necessary extensions to these plants as well as for the erection of new branches at other centres are under consideration. In addition to the packing and storage plants the company also owns over 50,000 acres of valuable ranch lands in different districts of Saskatchewan and Alberta, and has interests in approximately 600,000 acres of leased lands in Canada and the United States. Of the company's holdings about 7,000 acres are under cultivation, the remainder being utilized chiefly for grazing purposes, a supply of live stock thus being assured to the company independent of the market.

The founder of the business, Mr. J. T. Gordon, as president of the company takes a keen and active interest in its operations. Although the Gordon Ironside and Fares Company, Ltd., naturally receives the greater share of his attention, he also devotes much of his energy to the Standard Trust and Monarch Life Assurance Companies and the Royal Securities, Ltd., of which corporation he is president, while he is also managing director to the Sterling Bank, Ltd., of Toronto. He is also a member of the Winnipeg Chamber of Commerce.

GREAT WEST SADDLERY COMPANY, LTD.

For over 20 years the Great West Saddlery Company was conducted under the name of E. F. Hutchings. In 1900,

however, the first important step towards expansion was undertaken, when it was decided to convert the business into a limited company with a capital of \$250,000. The Great West Saddlery Company, Ltd., was accordingly formed, Mr. Hutchings accepting the presidency. In 1911 the company was reorganized and the capital increased to \$2,000,000.

The goods manufactured include every description of harness, horse collars, and riding saddles, while the company also imports trunks, valises, bags, saddlery hardware, domestic and imported leather, blankets, rugs, and shoe findings. Cowboy saddlery and other goods used in the West are manufactured at Calgary, a considerable saving in transportation being thereby effected. Such articles as are required for ordinary farming are made in the factory at Winnipeg, in which city the company also has a large warehouse. Branch factories, both at Calgary and Winnipeg, have been equipped with as complete and efficient a plant of electrical machinery as it has been possible to obtain. Other warehouses, but slightly less substantial than the company's building at Winnipeg, have been erected at Fort Macleod, Edmonton, Regina, and Saskatoon, about 300 hands being employed at the different establishments. The market extends from the Great Lakes to the Yukon.

In addition to the position he occupies as president of the Great West Saddlery Company, Mr. Hutchings is prominently connected with a number of other industrial concerns, and during his residence in the city, which has extended over 37 years, he has occupied several positions of civic importance.

In the conduct of the business of the Great West Saddlery Company he is ably assisted by the vice-president, Mr. R. J. Hutchings, the secretary-treasurer, Mr. Benjamin J. Denby, and two directors in the persons of Mr. Geo. Davidson and Mr. J. H. Lecch.

HENDERSON-BLANCHARD REALTY COMPANY

The Henderson-Blanchard Realty Company, of Winnipeg, is engaged in the sale of city property, suburban acreage, and farm lands. Only such investments are made, however, as in the judgment of the firm contain sound prospects. Investments of a speculative nature do not enter into the firm's schemes.

The large profits made in the past by fortunate speculations in real estate have bred deplorable greed among many investors in Canadian property. The Henderson-Blanchard Realty Company, however, in the words of one of the partners, "does not care to handle the moneys of clients who expect to invest to-day and to reap 50 or 100 per cent. profit upon their investment to-morrow."

The firm specializes in investments for British capitalists, though by no means solely for the wealthier class of investors. The firm also underwrites a considerable amount of fire insurance, stocks, and debenture issues.

Both Mr. J. B. Henderson and Mr. J. S. Blanchard are direct descendants of early Scotch settlers. They have from time to time travelled extensively through Western Canada, and are well qualified to discuss and advise on the prospects that await the agriculturist, merchant, and manufacturer in various localities.

W. A. HENDERSON & CO.

The firm of chartered accountants which is practising in Winnipeg under the name of W. A. Henderson & Co. was the first of its kind in Western Canada. Mr. W. A. Henderson, the founder, early realized to what extent Winnipeg must grow, and as early as 1882, established himself there as an accountant. It was not for several years that competitors entered the field, and by that time Mr. Henderson had obtained a very strong footing. He was afterwards joined by Mr. S. V. Roberts, who qualified in Great Britain, Mr. John D. Reid, who is a member of the Chartered Accountants' Association of Manitoba, and Mr. A. E. Gibson, who took his degree in Edinburgh, Scotland. Mr. Gibson is in charge of the offices at Lethbridge and Medicine Hat.

The firm became members of the Chartered Accountants' Association of Manitoba on its formation in 1886, and of the Dominion Association of Chartered Accountants under the federation of the Provincial Societies in 1910. Mr. Henderson was secretary to the Manitoba Association from 1886 to 1911, and vice-president of the Dominion Association in 1911-12, and president in 1912-13. The firm now supervise in their audits capital that aggregates over \$60,601,000.

THE PRAIRIE PROVINCES OF CANADA

JAMES IRVINE & CO.

Mr. James Irvine is prominent amongst those men who have made a prolonged study of real estate conditions in Western Canada.

On arriving in Winnipeg in 1901 he joined the Manitoba Land and Investment Company as a sales agent, and from that time has been continuously associated with real estate transactions. Having secured, as the result of his work, a partnership in the firm which he had joined in a junior capacity, Mr. Irvine two years later withdrew to organize the business that now bears his name. To-day the company holds deeds to some 28,000 acres of Manitoban land. The chief office is situated in Winnipeg, a branch has been opened in St. Paul, Minnesota, and the ramifications of the business are said to extend to every State in the Union. It is of interest to note that the present company was founded expressly to exploit and colonize farm lands in Manitoba; and the considerable business which the firm has built up would seem to show that the confidence which Mr. Irvine has always had in the possibilities of the lands was well founded. The firm invests money for clients and undertakes on their behalf the purchase and sale of land.

P. LANGLOIS

Mr. Langlois, who has resided in Winnipeg for a period extending over 26 years, has been engaged in real estate transactions in that city since 1902. Dealing principally in city property, farm lands, loans, &c., he has made many profitable investments for clients residing in different parts of the Dominion and the United States. During the past few years he has specialized to some extent in city and suburban property in Winnipeg. For many years Mr. Langlois was connected with the Canadian Pacific Railway, first in Montreal and later in Winnipeg. He is a member and secretary-treasurer of the Winnipeg Real Estate Exchange, and a member of the National Association of Real Estate Exchanges, and possesses an extensive knowledge of Canadian conditions and affairs. Mr. Langlois was born in Jersey, in the Channel Islands.

MACHRAY, SHARPE, DENNISTOUN, LOCKE, AND CRAWLEY

Mr. J. A. Machray, a native of Scotland, senior partner of the firm of barristers and

solicitors practising as Machray, Sharpe, Dennistoun, Locke, and Crawley, took his B.A. degree in Manitoba University in 1884. In 1887 he obtained the degree of Bachelor in Laws at Cambridge University, England, and in the same year returned to Winnipeg. In 1890 he became a partner of the firm of Archibald and Howell. In 1904 he was appointed Chancellor of the Diocese of Rupert's Land, and in 1912 was made a King's Counsel.

Mr. F. J. Sharpe, who also graduated from the University of Manitoba, studied law with the same firm, and was called to the Manitoba Bar in 1896. In the same year he became a partner of the firm of Archibald and Howell. In 1897 the firm of Archibald and Howell was dissolved, and the firm of Archibald, Machray, and Sharpe was established.

In 1907 Mr. Archibald retired, and the firm was re-organized by the admission of Mr. R. M. Dennistoun. Mr. Dennistoun was educated at Queen's University, and was called to the Ontario Bar and practised in Peterborough since 1888. He was made a King's Counsel in Ontario in 1907, and in Manitoba in 1909.

In 1911 Mr. Charles H. Locke, son of Judge Locke, one of the County Court Judges of Manitoba, and Mr. Charles Alan Crawley, were admitted to the partnership.

McKERCHAR AND MORRISEY

The law firm of McKerchar and Morrisey consists of Daniel Willis McKerchar, M.A., LL.B., William Stoker Morrisey, LL.B., and Lawrence Arthur Masterman, LL.B. The three members of the firm were born in Canada and represent three different provinces, as Mr. McKerchar was born in Ontario, Mr. Morrisey in Nova Scotia, and Mr. Masterman in Winnipeg, Manitoba. The business was established by the senior member of the firm in March, 1896. Two years later he took into partnership Donald Forrester, the firm assuming the title McKerchar and Forrester. The partnership continued until 1911, when Mr. Forrester retired and Mr. Morrisey became a member of the firm. Mr. Masterman joined the firm on his admission to the Bar of Manitoba in November, 1912.

The firm carries on a general law business in all its branches. Each member is a barrister, attorney, and solicitor, and each of the two senior members is a notary public for the province of Manitoba. Mr.

McKerchar is also a special examiner in the Court of King's Bench of Manitoba.

In addition to this Mr. McKerchar has been for the past seven years a member of the Council of the Manitoba Bar Association, and has for the past nine years been examiner in Law in the University of Manitoba.

During the year 1899 he filled the office of Official Administrator for the Eastern Judicial District of the province, but since the early part of the year 1900 it has been the policy of the Provincial Government to appoint a trust company instead of an individual to that office, so as to insure a continuous administration and to avoid the difficulties which might arise from the death of a personal administrator.

Mr. McKerchar has always taken an active interest in educational and social matters affecting the city. He has served continuously for 13 years as a member of the board of directors of the Young Men's Christian Association, and has just been elected president of the Association for 1913 and 1914. He is also a member of the executive of the University Club of Winnipeg.

McLAUGHLIN CARRIAGE COMPANY, LTD.

The McLaughlin Carriage Company, Ltd., is only one of the many large companies in Eastern Canada that has entered the Western field and established a branch at Winnipeg. This was done in 1899 as the direct result of the many inquiries for their manufactures arriving from that city. The first venture in the Canadian West partook more or less of a tentative nature, and but small premises were acquired, where two men were employed. It was almost immediately evident, however, that there was every justification for entering upon a more ambitious scheme of operations, and a move was made to a larger building consisting of three stories and measuring 50 by 96 ft. Eventually an addition was made to these premises, and the warehouse now measures 100 by 96 ft., while a two-storied fire-proof garage measuring 100 by 127 ft. and built of reinforced concrete has been erected in another part of the city. About 55 men are now employed and the annual turnover has increased from \$50,000 to \$1,500,000. Most of this business is transacted during the spring and summer seasons, when Winnipeg's main streets are lined with

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motor-cars of every description. A similar state of affairs obtains at Saskatoon, where the company is now erecting a warehouse at a cost of \$90,000. During the past year the company has expended \$200,000 on the establishment of branches throughout the West, and its warehouses are now to be found in Regina, Edmonton, Calgary, and Vancouver, while Eastern houses are situated at Toronto, Belleville, London, Hamilton, St. John, and Montreal.

The company holds the Western agency for the Pierce-Arrow cars, but otherwise deals in nothing that has not been manufactured in its factory at Oshawa. In Winnipeg the principal business transacted by the company consists of supplying the demand for carriages, motor-cars, and delivery wagons. In this centre, also, a large stock of various accessories is carried. A large business is also done in cutters and sleighs. The Winnipeg establishment is in the charge of Mr. R. Mackenzie.

McLEAN AND GRIDDALE, LTD.

The firm of McLean and Grisdale, Ltd., real estate agents and notaries, was incorporated in 1905. Since that date the firm has become well known in business circles in Winnipeg. City properties of all descriptions are handled extensively as well as farm lands situated within a radius of 40 miles of the city. A branch of the business that has steadily increased in volume is that concerned with the investment of funds on behalf of clients. A profitable form of investment is that provided by first mortgages, which secure a return of about 8 per cent.

Mr. Daniel McLean, although born in Canada, is of English parentage. From 1907 to 1910 he served as an alderman for the city of Winnipeg, and during the present year (1913) he is a member of the Board of Control. It may be added that Mr. McLean had acquired some years of experience of real estate transactions before the present firm was incorporated. Mr. R. C. Grisdale, who is also well versed in land values in the West, served as a city assessor prior to joining Mr. McLean in 1905.

MANITOBA BRIDGE AND IRON WORKS, LTD.

The Manitoba Bridge and Iron Works, Ltd., is a development of the machine

shop established in 1902 by Messrs J. Coulter and H. B. Lyall. For the past decade Western Canada has proved itself a true land of opportunity for the builder, contractor, or engineer, and Messrs. Coulter and Lyall found their time and energies fully occupied in coping with the work entrusted to them. After conducting their business for eighteen months, during which time their staff consisted of ten men, they were joined in 1903 by Mr. T. R. Deacon, a member of the Canadian Society of Civil Engineers, and the same year were incorporated as a limited company under their present title. Much of the constructional ironwork in Winnipeg has since been undertaken by the company, which has gained a position of considerable eminence in this class of work. The various bank buildings of the city are of exceptional magnificence, especially the new homes of the Bank of Montreal and the Bank of Commerce. The ironwork in both these buildings was entrusted to the Manitoba Bridge and Iron Works, Ltd., who in the same year also undertook the work in connection with the Sterling, Eastern Townships, and Northern Crown Banks, and various other large buildings.

Since 1909 a speciality has been made of bridges, and among the more important contracts carried out by the company was a viaduct for the Canadian Northern Railway, spanning three streets in Winnipeg, and involving some 1,400 tons of steel. Several other viaducts have been built for the same corporation, and on behalf of the Council of the city of Winnipeg a large contract has recently been completed in the form of a bridge over the Assiniboine River. This bridge includes a bascule span 440 ft. in length, with a roadway of 48 ft. and weighing some 800 tons.

Another undertaking of the company has been the erection of the Grand Trunk Pacific shops at Transcona, which took some two years to complete and involved the use of approximately 10,000 tons of steel. The total output of which the company is capable at present is 25,000 tons annually.

The president of the company is Mr. T. R. Deacon, the Hon. D. C. Cameron, Lieutenant-Governor of Manitoba, being the vice-president.

It is interesting to note that of the 400 hands now employed by the company one-half hail from Great Britain, 25 per cent.

of the remainder being foreigners who are engaged in doing the rough labouring work.

MARWICK, MITCHELL, PEAT & CO.

A branch office of this important British firm of chartered accountants was established in Winnipeg in 1906. Originating in Glasgow in 1886, the firm has since opened some 30 branches at home and abroad. They are exceptionally well represented in North America, for, in addition to their other Canadian offices (Montreal, Vancouver, and Moose Jaw) they have no less than 17 branches across the International boundary. The son of the late Sir James Marwick—who was knighted as Town Clerk of Glasgow—Mr. James Marwick, is the senior partner. His professional degrees include those of membership of the Institute of Chartered Accountants (Glasgow) and similar bodies in Ontario, Manitoba, British Columbia, &c., in Canada. Mr. S. R. Mitchell, also a partner, holds the degree of Chartered Accountant of British Columbia, and that of C.P.A. of New York and other States. Another principal, Sir W. B. Peat, is a member of the Institute of Chartered Accountants in England and Wales, over which body he has presided for a double term. A branch office of the firm was established at Moose Jaw in the spring of 1913.

One of the partners of the firm, Mr. Douglas Dewar, who was formerly associated in the management of other offices, is now resident in Winnipeg. Mr. Dewar holds the degree of C.A. (Scotland) as well as similar degrees in Manitoba, Saskatchewan, British Columbia, and in the United States. It may be remembered that the firm obtained prominence in a public way by their appointment to conduct a special audit of the accounts of the city of Winnipeg covering the period from May 1, 1905, to April 30, 1907. On this occasion also they designed and installed for the various municipal departments a new accounting system that is still in force.

MOONEY BISCUIT AND CANDY COMPANY, LTD.

The Winnipeg branch of the Mooney Biscuit and Candy Company, Ltd., is only one of a chain of factories and warehouses reaching from coast to coast which has

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been erected since the incorporation of the company in 1902. The parent house was established in that year at Stratford, Ontario, the capital of the company being \$100,000, a figure that has since been increased to \$1,500,000. The next decade saw the erection of subsidiary factories at Montreal, Winnipeg, and Vancouver, while storehouses were built at Calgary, Hamilton, Ottawa, Sydney, and Halifax. When the firm first commenced operations in Winnipeg, trade did not justify it in manufacturing locally, and for a while supplies were drawn from the Eastern factories. In 1910, however, the firm found it necessary, in order to cope with the increase in business, to produce goods in Winnipeg and their factory is now an important feature in the industrial life of that city. In choosing their plant they had the great advantage of experience gained from prolonged tests of the different types of machinery used in their Eastern factories, and the firm were enabled at the commencement to install those machines which gave the most efficient and economical results. Different parts of Canada are naturally supplied from different factories, that at Vancouver distributing its goods throughout British Columbia, the Winnipeg house supplying the three Prairie Provinces, while the Eastern factories, in addition to handling a considerable export trade, are called upon to supply the markets of Eastern Canada and the Maritime provinces.

The officers of the company include Messrs. W. J. Mooney, president; W. C. Mooney, vice-president; and S. J. Cook secretary-treasurer; while the directorate consists of Messrs. A. H. Mitchell, W. J. Challoner, R. S. Robertson, J. E. Morris, and J. L. Holmes.

A. W. MORLEY

Mr. A. W. Morley, one of the more recently established solicitors of Winnipeg, is a native of Huntsville, Ontario, of English parentage, and came to the Western city in 1900. He entered the University of Manitoba almost immediately after his arrival, and after three or four years' close study of the law, took his degree of LL.B. in 1904. In the same year he was called to the Manitoba Bar. For the next two years he practised law under the guidance of established and experienced lawyers, but in 1906 he opened an office and commenced

an independent practice. From the first he specialized in commercial and corporation law, and it was doubtless due to his knowledge of these matters that he was invited to occupy a seat on the directorate of several important commercial companies. He looks after the legal interests of many industrial corporations, and numbers several important loan and investment companies among his clients. Mr. Morley takes a considerable interest in public affairs, and is also one of the senior officers in the 19th Regiment Winnipeg Rifles.

THE NATIONAL CONSTRUCTION COMPANY, LTD.

Reinforced concrete is becoming more and more popular as a material for commercial buildings throughout the West, and as specialists in that branch of the building industry the National Construction Company, Ltd., of Winnipeg, has gained a measure of success quite out of proportion to the short time it has been established. In Winnipeg it is prominent more on account of the importance of its undertakings than their number. Amongst the buildings erected by the company is the Lindsay Block, which has the distinction of being one of the tallest buildings of reinforced concrete in the Western metropolis. This important structure contains ten stories. The company is also engaged on the construction of the Boyd Building, a nine-story edifice on Portage Avenue. The most important of the contracts received, however, is that for the new Provincial Government Law Courts in Winnipeg, which was secured by a tender of \$1,000,000. The company claims that this building will be, when completed, the most modern court house in Western Canada, both from a structural and architectural standpoint. Buildings have also been erected in Moose Jaw, the most important being the Canadian City and Town Properties Offices, the Snell Department Store, and the Tuxford Garage, while the company is also constructing the new home of the Saskatchewan Creamery Company in Moose Jaw. Many contracts have been taken on per cent. and cost, plus a fixed sum, though the directors are always willing to undertake work on the basis of a bulk tender.

The company was established in May, 1911, but for the first twelve months of

its existence bore the name of the Kelly Simpson Company, Ltd. It was capitalized at \$100,000, all of which was fully subscribed.

With the change of title in May, 1912, however, the directors also decided upon an increase in capital owing to their success in securing several contracts of importance. The capital now stands at \$1,000,000, of which one quarter is subscribed. The president and general manager is Mr. C. H. Simpson, and he is ably supported by the vice-president, Mr. Michael Kelly; the secretary-treasurer, Mr. J. M. Kelly; and the assistant manager, Mr. J. Barter.

NIXON AND RUTHERFORD

By keeping in close touch with all movements affecting values, not only in Winnipeg, where their offices are situated, but also in such cities as Edmonton, Saskatoon, Swift Current, and Medicine Hat, and by applying the knowledge so gained for the benefit of clients, this firm of real estate and insurance agents has built up a large and prosperous connection in both Eastern and Western Canada.

The personnel of this firm consists of Mr. S. O. Nixon, formerly in business in Eastern Canada, and Mr. R. W. Rutherford, a native of Western Canada. Mortgages and other investments are handled on conservative lines, and much business is transacted by the firm in this direction on behalf of clients residing in Great Britain.

OAKES-GRAY LAND COMPANY

Established in 1912, the Oakes-Gray Land Company are successors to the Oakes Land Company, a firm founded in 1902 by Mr. A. H. Oakes. The firm has its headquarters in Winnipeg, the partners being Mr. F. W. Gray, an American capitalist, of Minneapolis, and Mr. A. H. Oakes, of Winnipeg. The duties of secretary are fulfilled by Mr. Thomas E. Norfolk, while Mr. Albert Prugh occupies the post of treasurer.

The firm does a very large business in real estate, and has an enviable reputation in the city in which it has its home. The more important transactions are in central city property and suburban acreage, although the renting and sale of houses forms a substantial part of the business. The rent of houses increased in 1912, but during the past twelve months has remained



OAKES-GRAY LAND COMPANY, WINNIPEG.

1. INTERIOR OF OFFICES.

2. MR. OAKES IN HIS PRIVATE OFFICE.

3. VIEW IN LORD SELKIRK PLACE

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steady, and in the opinion of Mr. Oakes there is no prospect of an early rise. The firm places money in mortgage loans on behalf of clients, discounts agreements for sale, manages estates, and is just completing arrangements whereby it will act as agents for the Home Underwriters Agency, a fire insurance company of New York. In addition the firm manages the United Investors, Ltd., a company with an authorized capital of \$1,000,000. Half of this capital has been subscribed, and the whole issue will shortly be completed. The business conducted consists of real estate transactions, loans on mortgage, and the discounting of agreements for sale. About 100 of the shareholders in this company are resident in England and Scotland. The Oakes-Gray Realty Company has a very large clientele in the United States, and also does a large business with the residents of Winnipeg and other Canadian towns. An office has already been opened in Edinburgh, Scotland, and steps are being taken to establish an office in London. Finally, it may be stated that the firm, through its partners and clients, controls about \$3,000,000 worth of property.

OLDFIELD, KIRBY, AND GARDNER

The members of this, one of the best known of the financial houses of Winnipeg, have been established in that city since 1881. It was not until October, 1905, however, that the partners joined forces and established the firm under its present title.

The business transacted by Messrs. Oldfield, Kirby, and Gardner includes the investment of funds on first mortgages on the security of improved farm lands and business and residential properties in Winnipeg and the larger of the Western cities. Amongst these cities may be mentioned Regina, Calgary, Saskatoon, and Edmonton. The towns of Fort William and Port Arthur in Western Ontario also come within the radius of the firm's activities.

The firm has a branch office at Calgary, from which point loans in the province of Alberta are dealt with, subject to approval of the Winnipeg office. An office has also been established at Saskatoon, as headquarters for the Saskatchewan farm business. A staff of farm inspectors is maintained for the purpose of valuing farm securities.

First mortgage investments yield at the present time from 6 to 7 per cent. net. These rates, however, necessarily fluctuate with the condition of the money market.

The firm invests funds for the North British and Mercantile Insurance Company, Edinburgh; the Caledonian Insurance Company, Edinburgh, Scotland; and the Norwich Union Life Insurance Society, Norwich, England. They are also managers in Canada of the Investment Corporation of Canada, Ltd., and have extensive private connections throughout the British Isles.

The Investment Corporation of Canada, Ltd., was incorporated in Great Britain in 1911, with a capital of £1,000,000, of which £500,000 has been paid up.

The issue was made through Messrs. C. J. Hambro and Son, the well-known firm of London bankers—Mr. C. Eric Hambro being chairman of the board.

On the Canadian board of advice are to be found the names of His Honour D. C. Cameron, Lieutenant-Governor of Manitoba; the Hon. Robert Rogers, Minister of Public Works, Ottawa; Mr. George Bury, vice-president of the Canadian Pacific Railway Company, and other prominent representatives of Canadian finance and commerce.

The rental department of the firm takes care of the management of estates, store, office, and warehouse buildings, and residential and other properties. Rentals are collected, and disbursements made of the upkeep charges, and the surplus remitted to the owners monthly or quarterly as arranged. All details of the care of improved properties, of whatever nature, are undertaken.

The real estate department buys and sells property of every description on commission, its operations extending from Fort William to the Pacific coast. Agencies have been established at the most important points.

In the insurance department all classes of insurance, except life, are written. The fire companies represented are: North British and Mercantile Insurance Company, the Norwich Union Fire Insurance Society, the Caledonian Insurance Company, the London and Lancashire Fire Insurance Company, and the Yorkshire Insurance Company. Other lines of insurance, such as accident, plate glass, and automobile, are written in the Canadian Surety Company, Canada Accident Assurance Company, Mannheim Insurance

Company, and for live stock the Yorkshire Insurance Company. Most of these companies have been represented by the firm, or some member thereof, for over 25 years.

The firm are members of the Winnipeg Stock Exchange and of the Winnipeg Real Estate Exchange.

Messrs. Oldfield and Gardner hail from Great Britain, but have resided in Canada for many years. Mr. Kirby, who is a native of Montreal, entered Western Canada in 1879.

OSLER, HAMMOND, AND NANTON

The firm of Osler, Hammond, and Nanton dates from 1884, when Mr. A. M. Nanton, who had been in the employ of Messrs. Osler and Hammond in Toronto for some time, was sent by that firm to open an office in Winnipeg.

The original members of the Winnipeg firm were Mr. E. B. Osler (now Sir Edmund Osler), Mr. H. C. Hammond, and Mr. A. M. Nanton. In 1899 Mr. H. W. Nanton, a brother of Mr. A. M. Nanton, was admitted, and in 1906 Mr. H. F. Osler, son of Sir Edmund B. Osler. The firm sustained a great loss in 1908 in the death of Mr. Hammond. In 1912 the membership was still further increased by the admission of Mr. T. L. Peters, Mr. C. M. Taylor, and Mr. G. D. Lynch, who have all been with the firm for a number of years.

The firm conduct a general financial business, dealing in stocks and bonds on all the important Stock Exchanges. They also undertake, through the Osler and Nanton Trust Company (of which they are the general managers), the placing of funds for clients in such sound investments as first mortgages on farm and city property. This particular form of investment has been an important part of the business for almost the whole period of the firm's existence. They have invested funds in this way during many years for the North of Scotland Canadian Mortgage Company (of which company they are the general managers in Canada), the Law Union and Rock Insurance Company of London, and the Dominion of Canada Investments and Debenture Company of Glasgow. They strongly recommend this form of investment to their clients as their experience has shown that where proper care is taken in the selection of



OLDFIELD, KIRBY, AND GARDNER, PORTAGE AVENUE, WINNIPEG—EXTERIOR OF OFFICE PREMISES.

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the security, a more satisfactory investment together with a high rate of interest, cannot be obtained.

The firm act as selling agents for various land companies, such as the Calgary and Edmonton Land Company, the Winnipeg Western Land Corporation, and the Canada Saskatchewan Land Company.

Their insurance department looks after the fire insurance agency of such companies as the Western Assurance Company, the Law Union and Rock Insurance Company, the New York Underwriters' Agency of the Hartford Insurance Company of America, and the Queen Insurance Company of America, and does an accident and liability insurance business for the Law Union and Rock Insurance Company.

The firm are also wholesale coaldealers, and ship hard and soft coal to all points in Western Canada.

Besides being head of the firm of Osler, Hammond, and Nanton, Sir Edmund B. Osler is head of the firm of Osler and Hammond in Toronto. He is connected with a great many prominent Canadian companies, being a director of the Canadian Pacific Railway Company, president of the Dominion Bank, president Canada North-West Land Company, a director of the Confederation Life Association, Consumers' Gas Company, Toronto General Trusts Corporation, a member of the Canadian advisory board of the North of Scotland Canadian Mortgage Company, and a director of the Calgary and Edmonton Land Company, Ltd.

He has always taken a keen interest in public affairs and has been member for West Toronto in the Dominion House of Commons since 1896. He was one of the Canadian representatives at the Congress of the Chambers of Commerce in London in 1891.

Mr. A. M. Nanton, the acting head of the firm in Winnipeg, is also connected with a great many enterprises throughout the Dominion, being chairman of the Canadian committee of the Hudson's Bay Company, a director of the Dominion Bank, vice-president of the Great West Life Assurance Company, a director of the Winnipeg Electric Railway Company, Northern Trust Company, and Manitoba Bridge and Iron Works, ex-governor of the Winnipeg General Hospital, and ex-president of the Winnipeg Board of Trade.

D. A. PENDER & CO.

The firm of chartered accountants practising under the title of D. A. Pender & Co. was founded in 1902 by Mr. D. A. Pender, who had served his apprenticeship in his native city of Glasgow, Scotland. The books of many large commercial and financial corporations are placed under the supervision of the firm, which is affiliated with the Manitoba Chartered Accountants' Association and federated with the Dominion Association. Its clients are not confined to Winnipeg, many being established in the Eastern and Western cities of Canada, while work is occasionally undertaken for clients in England.

Probably no accountant in Winnipeg is imbued with greater enthusiasm for his profession than Mr. Pender, who has established an enviable reputation with the business men and institutions of Canada. In his work he is ably assisted by the junior partner of D. A. Pender & Co., Mr. D. Cooper. Mr. Cooper joined the firm in 1908 and became a partner in 1910. Before coming to Canada he was one of the chief accountants to the Fife Colliery Company, and afterwards secretary-treasurer with a manufacturing firm in London, England. He qualified for admission into the Manitoba Chartered Accountants Association, of which Mr. Pender was president, in 1908-9.

RAT PORTAGE LUMBER COMPANY, LTD.

Except in certain northern districts, there is a dearth of timber throughout the Prairie Provinces of Canada; nevertheless the manufacture of lumber in the shape of building materials is an industry of no mean proportions among the towns of the West. In Winnipeg, the Rat Portage Lumber Company, Ltd., at once exemplifies the extent to which the industry has grown and illustrates the optimism which Eastern Canada feels in the development of the Western half of the Dominion. Originally known as the Ontario and Western Lumber Company, Ltd., the company was established at Rat Portage, Ontario, in 1893, with a paid up capital of \$269,000. This figure, however, has since been increased to \$2,000,000. The necessity of getting into closer touch with the markets of the West soon decided the directors to move their offices to Winnipeg. At the same time the name of the company was

changed to that under which it now operates.

The operations conducted at the company's mills in Winnipeg mainly consist of preparing lumber for the builder, supplies of rough timber being obtained from the Lake of the Woods district. The manufacture of doors, sashes, and interior finish is also undertaken, while a smaller department employs 60 or 70 men in manufacturing wooden boxes. The demand for these goods is very general throughout the West, and branches have been established at Saskatoon, Moose Jaw, Brandon, Portage La Prairie, and ten other smaller towns, in order that the company's products may be more efficiently and economically distributed among consumers. Large saw-mills are operated at Vancouver and Harrison, B.C., where much of the raw timber is obtained, and at Kenora, Ontario. The annual turnover has reached \$3,000,000, and employment is given to 2,000 men, or about four times the number employed by the company when it first commenced operations.

The mills at Winnipeg are under the management of Mr. William Robertson, who is also a director of the company.

H. T. READE

Mr. Hubert Thomas Reade, the present vice-president of the Institute of Chartered Accountants of Manitoba, established his practice in Winnipeg in October, 1910. He obtained his diploma as a member of the Chartered Accountants' Association of Manitoba (now the Institute of Chartered Accountants of Manitoba) on July 13, 1906. For some time previous to being admitted a member he was associated with a firm of chartered accountants in Winnipeg. In 1908 he joined a prominent firm of public accountants in New York city, where he remained until commencing to practise for himself. Mr. Reade takes care of the accounts of some of the leading financial and industrial concerns in the Winnipeg district. He was born in Toronto, and entered Western Canada in 1904. In 1910 he received from the New York University the degree of Bachelor of Commercial Science. He has been on the council of the Institute of Chartered Accountants of Manitoba since 1910; he has been a member of the board of examiners of the Institute since 1910, and has been chairman of the Board since 1911.

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RONALD, GRIGGS & CO.

This firm was established under its present style in June, 1913. The business, however, was founded by Mr. W. Sidney Ronald in 1901. In 1903 Mr. Ronald was joined by Mr. George Edwards, who seceded in May, 1913. In March, 1912, Mr. Griggs was admitted to the partnership, and in the same year Mr. Palmason removed to and became interested in the business of the firm at their Moose Jaw branch.

The growth of the business may be gathered from the dates upon which it was found necessary to add branches to the original house. A branch, still maintained, was established in Saskatoon in 1909, and another was opened in Moose Jaw in 1910. Further development is shown in the arrangements which have recently been completed providing representation of the firm in London, England. Mr. W. Sidney Ronald has been a chartered accountant of the province of Manitoba since 1903, of Ontario since 1905, and of Saskatchewan since 1911. He was president of the Chartered Accountants' Association of Manitoba in 1907, in which year the council of this association considered, with institutes of other provinces, the organization of a Dominion Institute of Chartered Accountants. This Institute, it may be observed, has since materialized and become a power. Mr. Ronald served on the council of that association during the years 1908, 1909, and 1912. Mr. B. F. Griggs, who received his diploma from the Chartered Accountants' Association of Manitoba in 1911, has been connected with the firm since 1908. He has served on several committees of the Institute of Chartered Accountants of Manitoba, and is a past president of the Chartered Accountants' Students Association. Mr. H. J. Palmason has been associated with the firm since 1906. He was admitted a member of the Institute of Chartered Accountants of Saskatchewan in 1913. Both Messrs. Ronald and Palmason are Canadians by birth, entering the West from the Eastern provinces, the former in 1881 and the latter about 1898. Mr. Griggs was born in London, England, and came to Canada in 1906.

ROTHWELL, JOHNSON, AND BERGMAN

The firm of barristers and solicitors practising in Winnipeg under the name of Rothwell, Johnson, and Bergman, was founded

in 1900 by Mr. S. J. Rothwell and Mr. W. E. Perdue, the former of whom had for some time been with the firm of Hough and Campbell, also of Winnipeg. In 1903 Mr. Perdue was promoted to the Bench and retired from the firm. He was succeeded by Mr. T. H. Johnson, a native of Iceland, and a Bachelor of Arts of the Gustavus Adolphus College, North Dakota, U.S.A. Mr. Johnson was called to the Manitoba Bar in 1896, and before joining Mr. Rothwell had been in practice with Mr. Howard, who in 1890 was appointed District Registrar for the Land Titles District of Carman. A third partner was admitted in 1909 in the person of Mr. Hjalmar A. Bergman, B.A., of Luther College of Decorah, Iowa. He took his LL.B. degree at the University of Manitoba in 1906, and was called to the Manitoba Bar in 1908.

Whilst possessing a wide and varied practice amongst private clients, the firm has also been entrusted with legal matters by the Hudson's Bay Company, the London and Canadian Loan and Agency Company, Dominion and Permanent Loan Company, Colonial Investment Company, the Canadian Western Securities Corporation, and the Toronto Mortgage Company. Certain interests have also been confided to their care by Lord Strathcona.

Mr. S. J. Rothwell, the founder and senior partner of the firm, took his B.A. degree at Toronto University and was called to the Manitoba Bar in 1895. He is keenly interested in public affairs and represents West Winnipeg in the Provincial Legislature.

THE ROYAL CROWN SOAPS, LTD.

Established over 20 years ago, when the consuming power of Winnipeg was probably but little more than one-tenth of what it is to-day and many of the cities were virgin prairie, the Royal Crown Soaps, Ltd., has developed in proportion to the growth of the West. From a small, almost insignificant company, with an initial capital of about \$5,000, it has become a strong corporation with a paid up capital of \$636,000. In 20 years the capital has been increased to 127 times its original size.

The chief factory is situated at Winnipeg, where it covers an area of 150,000 sq. ft. and is connected with the neighbouring line of the Canadian Pacific Railway Company by a private spur line. The plant is

thoroughly modern in every respect and includes 10 pans. The raw material, principally tallow, is obtained from local abattoirs, chemicals being secured mainly from England. Perhaps the most popular of the company's products, which include laundry and toilet soaps and perfume, is the Witch Hazel toilet soap, for which the demand has become very great throughout the West. One of the best indications of the company's progress is afforded by the establishment of branch factories at Calgary and Vancouver.

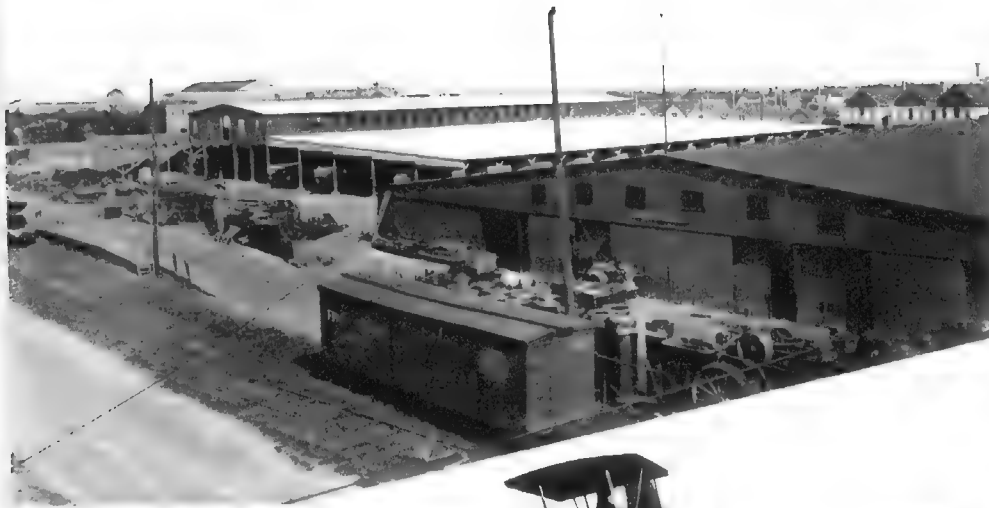
The managing director of the company is Mr. M. Bull, the secretary-treasurership being in the hands of Mr. E. G. Parker.

M. RUMELY COMPANY, LTD.

The origin of the M. Rumely Company dates back to 1853, when Meinrad Rumely emigrated to the United States of America from Germany, and opened a blacksmith's shop at La Porte, Indiana. From the first he interested himself in devising new agricultural machinery, and was successful in improving in many minor details the implements then in use. His first important success was obtained in 1857, when he so improved the design and the mechanism of the threshing machine that it was able to thresh 600 bushels of wheat per day. He was one of the first to adapt the steam engine for threshing, and his inventions brought threshing machines to a high standard of efficiency. By 1890 the Rumely machine was being used throughout the Mississippi Valley. Rapid development then continued to take place, and very shortly the operations of the firm extended to the prairies of North and South Dakota and Canada. In these places the tough quality of the soil made ploughing difficult for horses, and the Rumely Company devoted itself to the invention of steam-ploughing machinery. After heavy expenditure the company in 1906 was enabled to perfect its machine and place it on the market.

To-day, however, is largely the day of the small farmer, to whose needs the steam plough, owing to the large quantity of coal that it requires, is scarcely well adapted. Recognizing this fact, the directors of the company closely watched the development of the gas, gasoline, and oil engines. They were especially interested in the work of Mr. John A. Secor, an engineer who was devoting himself to the

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M. RUMELY COMPANY, LTD., LA PORTE, INDIANA.

1. BIRD'S-EYE VIEWS OF THE FOUR MANUFACTURING PLANTS OF THE M. RUMELY COMPANY. 2. A RUMELY "OIL PULL" TRACTOR PLOUGHING TOUGH GUMBO SOIL.
3. BIRD'S-EYE VIEW OF WINNIPEG PLANT.

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perfection of oil engines, and eventually induced him to enter their service at La Porte, and to design an oil engine for traction ploughing. The first engine that Mr. Secor built under the auspices of the Rumely Company proved eminently successful, and to it was given the name of "Oil Pull."

The work of manufacturing and selling these machines was undertaken in no half-hearted manner. The stockholders of the company voted the expenditure of large sums of money for pioneer work. Tens of thousands of dollars were spent in experiments, hundreds of thousands of dollars were spent in factories and in purchasing plant, and within 15 months a huge factory had been fully equipped, and the basis of an entirely new business laid.

The sale of "Oil Pull" tractors increased rapidly. Fifty were sold the first year—more than 1,000 the second year. Customers for these engines were pleased, and came back to buy separators, clover hullers, corn huskers, and other power-driven machinery. The wood-working shops of the company lacked the capacity to build these machines. The town itself could not furnish houses enough for the men. Much more capital was needed to carry on the work.

The stock of the company was increased to \$10,000,000 of common and \$12,000,000 of preferred stock, which stock was sold all over the world. With the money so raised, the assets and factories of Gaar, Scott & Co. at Richmond, Indiana, the Advance Thresher Company at Battle Creek, Michigan, and the American-Abell Company, Ltd., at Toronto, Canada, were purchased, and additional liquid funds provided for carrying on the business.

In 1909 the company entered upon an extensive campaign in Canada and opened its offices at Toronto, with branches at Winnipeg and Calgary. A year later a branch was established at Regina, while in January, 1911, the demand in Northern Saskatchewan necessitated the establishment of a distributing warehouse at Saskatoon. During 1912 further branches were opened at Brandon, Manitoba; Yorkton, Saskatchewan; Estevan, Saskatchewan; Edmonton, Alberta, and Vancouver, B.C. The demand for Rumely power farming machinery in Canada is exceeding the most sanguine expectations of the directors. During 1909 the turnover of the Canadian house only

reached \$350,000, but in 1911 the volume of business reached \$2,000,000. It is anticipated that the figures for 1912 will be approximately three times this amount.

The officers of the company are: President, Mr. Joseph J. Rumely; vice-president and treasurer, Dr. E. A. Rumely; secretary, Mr. T. A. Rowan, of Toronto, Ontario. Messrs. La Fever and V. E. Bush are also directors of the Canadian company.



RUSSELL MOTOR CAR COMPANY

The early history of the Russell Motor Car Company, the head office of which is in West Toronto, Ontario, is largely a history of amalgamation. In 1899, five of the leading bicycle firms of Canada were known as the Massey Harris, the Cleveland, the Brantford, the Welland-Vale, and the Gendron. In that year these firms amalgamated under the title of the Canada Cycle and Motor Company, and in 1901 the National Cycle and Automobile Company was also absorbed. In this way the firm gained complete control of all Canadian bicycle factories and also secured the sole agency for Canada for the American Bicycle Company.

It was in 1904, while holding the sole Canadian agency for some of the leading American automobiles, that the firm manufactured the first Russell car. During the next seven years the demand for these cars increased very rapidly, and in 1911 the title of the firm was changed to the Russell Motor Car Company.

The Winnipeg branch is practically as old as the head office, having been established in 1899. It comprises large showrooms and offices, a garage, repair shop, and stockroom. It is becoming increasingly difficult to supply local demands from the stock at present carried, and a further warehouse will be shortly acquired in the suburbs. The development of trade in Alberta has also necessitated the establishment of a branch in Calgary.

The firm places on the market nothing that has not been made in its own factories at Toronto, and all the Russell cars are fitted with the "Silent Knight" engine, for which the firm has the sole Canadian rights.



SCOTT, HILL & CO.

Though Messrs. Scott, Hill & Co. have been established in Winnipeg since 1902, the history of the firm really dates back to

a short while before, when Mr. H. Hill and Messrs. R. A. and J. J. Scott, who had previously farmed in Southern Manitoba, moved to the city.

There is no doubt that much of the success of the firm may be attributed to the wide experience of the West that the partners during the past three or four decades have obtained. Mr. Hill first came to Winnipeg in 1877, before the arrival of the railway and when but little was known of the Western plains. He had not been long in the country before he purchased land at Morden, where he had as his neighbours the two gentlemen with whom he is now associated in business. Messrs. Scott, though they came West 10 years after Mr. Hill, have yet seen towns spring up on the bare prairie and cities develop from the towns. But a few years ago they were living under canvas on what is now the site of Battleford, a town that ranks high in the estimation of real estate men. It was inevitable therefore that they should be imbued with an unswerving belief in the future of the Canadian West, and when the opportunity came to take a part in its development they were not slow to seize it. With their agricultural experience, it was but natural that farm lands should appeal to them strongly as an excellent investment, and they have handled large tracts of improved and unimproved land in all parts of the three Prairie Provinces. At the same time the firm has built up an extensive business in town lots, business sites, houses, and acreage situated on the outskirts of Winnipeg. Among the subdivisions which have been put on the market by Messrs. Scott, Hill & Co. are Elmdale, Ferndale, Wydale, Orpha Gardens, and Commercial Centre at Transcona, one of the outlying districts of Winnipeg where large railway developments are taking place. The firm also acts as agents for the Mount Royal and Braeside properties at Swift Current in Saskatchewan.



J. N. SEMMENS

Mr. J. N. Semmens, who is practising as an architect in Winnipeg, first came to the city as the special representative of McKim, Mead, and White, an eminent firm of architects in New York, to superintend the construction of the building that houses the Bank of Montreal. The latter is a magnificent edifice situated on the corner of

THE PRAIRIE PROVINCES OF CANADA

Main Street and Portage Avenue, the two main thoroughfares of Winnipeg. It cost \$1,500,000.

Impressed with opportunities which Winnipeg offered, Mr. Semmens decided to practise in the Western city. Since then he has designed many of the large houses to be found in the residential quarters of Winnipeg, and has planned the Bannatyne Public School, the suburb of St. Charles, and also the Lyceum Theatre on Portage Avenue. One of his most recent commissions was the Third Avenue Methodist church at Saskatoon.

Mr. Semmens graduated in architecture at the University of Pennsylvania, and gained most of his experience with Messrs. McKim, Mead, and White.

STANLEY KING & CO.

This real estate and investment business was established in Winnipeg by Mr. W. Stanley King in 1908. Whilst certain other gentlemen hold financial interests in the various branches of this business, Mr. King is virtually the sole proprietor. The company specializes in the sale of business properties within the city of Winnipeg and in the sale of the town site of Dunmore. Farm lands are not handled by the firm. Money is invested by the firm in first mortgages upon improved city properties, business and residential. These yield from 7 to 8 per cent. net to the investor. The firm loan about 40 per cent. upon their own valuation. Private and trust funds are also invested in the discounting of agreements for sale. In these cases the principal is guaranteed by the firm. The interest paid by these investments reaches from 10 to 15 per cent. Investments in industrial securities in the town of Dunmore are also handled. Mr. King was born in Ontario, and entered Western Canada in 1908. Previous to establishing the business under notice he was for some years connected with investments and brokerage in Eastern Canada. Mr. King, it should be added, is a member of the Winnipeg Real Estate Exchange.

TAYLOR, MACALPINE, AND ROSS

Coming from Ontario in 1881, Mr. E. L. Taylor first devoted his energies to teaching. He followed the teaching profession for several years. He then took up the study of law and was admitted as an

attorney in 1894. He was called to the Bar in May, 1895, and became a King's Counsel in 1907.

For some time after qualifying in his profession, Mr. Taylor was the sole member of his firm. In 1907, however, he was joined by Mr. C. D. H. MacAlpine, a Bachelor of Arts of Toronto University, and later still by Mr. Douglas H. Ross, who also holds the B.A. degree of Toronto University.

The firm is mainly engaged in company law and in superintending investments on behalf of clients. It acts in a legal capacity for such large corporations as the Great West Permanent Loan Company, the Canada National Fire Insurance Company, the Sterling Bank of Canada, the Monarch Life Assurance Company, the Imperial Canadian Trust Company, and many others.

T. D. THOMPSON & CO.

Messrs. T. D. Thompson & Co., real estate and investment agents of Winnipeg, may be said to specialize in city property and Western farm lands. A considerable volume of business, however, is transacted in other directions, a number of agents and representatives corresponding with the firm from different parts of Canada and from London, England. The company are agents for the Winnipeg and Canadian Investments, Ltd., the Park Manor Realty, Ltd., the Rosewood Crescent Estate, Ltd., the Transurban Investments Company, Ltd., and Geneva Park subdivision.

The firm consists of Messrs. T. D. Thompson, Joseph Thompson, R. A. MacLean, Ph.D., E. E. Lewis, and W. T. Black, all of whom have had considerable experience in real estate business. Mr. T. D. Thompson, the senior partner and general manager, came to Winnipeg in 1906, the other members of the firm joining at subsequent dates.

TUPPER, GALT, TUPPER, AND McTAVISH

The firm of Tupper, Galt, Tupper, and McTavish, barristers and solicitors, of Winnipeg, originated under the title of McDonald, Tupper, Phippin, and Tupper. Both Mr. McDonald and Mr. Phippin, however, have since severed their connection with the firm, Mr. Phippin being appointed

in 1906 a member of the Manitoba Court of Appeal and Mr. McDonald in 1889 accepting the highest office that the province could offer him, that of Premier. Mr. Phippin and Mr. McDonald were succeeded by Mr. Minty and Mr. Gordon C. McTavish, the former of whom has since died.

Mr. J. Stewart Tupper is a Bachelor of Arts of McGill University, was called to the Ontario Bar in 1875, and the Manitoba Bar in 1882. He subsequently took silk and in 1890 became president of the Law Society of Manitoba. His brother, Mr. Charles S. Tupper, was educated at Harrow School, England, and is a Bachelor of Arts of Toronto University. He was called to the Bar in 1876 and became a King's Counsel in 1910.

H. A. WEBB & CO.

The firm of H. A. Webb & Co., real estate and financial agents, and notaries public, are largely interested in property in and about Winnipeg, special attention being devoted to the pretty suburbs known as Tuxedo Park and Norwood and suburban acreage. Money is invested to earn an even 8 per cent. on behalf of clients in first class mortgages on central residential properties, apartment blocks, and other revenue bearing properties, whilst a considerable business is undertaken in the direction of purchasing agreements of sale. Expert valuations and reports are made upon all securities submitted, and the interest due to clients is guaranteed by the firm if desired.

Amongst the acreage in which the company is keenly interested may be mentioned that situated in the districts of St. Vital and Fort Garry, adjacent to the New Manitoba University and the Agricultural College. It is proposed to subdivide this property shortly, the constant expansion of Winnipeg necessitating the frequent opening up of new districts.

The two partners of the firm are Mr. Harry A. Webb and Mr. R. Shelton, both of whom possess a considerable experience of real estate conditions. It may be added that the firm is in constant touch with clients and correspondents throughout the British Isles, and on their behalf large investments are frequently made.

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WESTERN PACKING COMPANY, LTD., OF CANADA

Although the slaughtering and curing of cattle and hogs has not yet reached in Canada the gigantic proportions that it has attained in the United States, there are, nevertheless, a number of firms who have turned their attention to this industry with most encouraging success. Prominent among them is the Western Packing Company, Ltd., of Canada, a company that was founded in 1900 with a capital of \$500,000. At that time similar companies found it difficult to satisfy the demands of the market, and large quantities of killed and cured meat were being imported from the United States. The Western Packing Company, Ltd., found an immediate market in the neighbourhood of Winnipeg, where its headquarters are established, and throughout the West, its turnover for the first year reaching \$150,000. In the years that followed, the company steadily increased its trade, and with the growth of business came the necessity of enlarging the plant and the staff of butchers, workmen, and clerks who attend to the slaughtering, curing, and distribution of the meat. The annual turnover has now reached \$500,000 a year, and the staff consists of 37 men, the initial force having totalled but 11.

Of recent years the company has found it increasingly difficult to obtain cattle and hogs in sufficient numbers, and herein is reflected one of the most serious agricultural problems with which Canada sooner or later will be called upon to deal. The doubt felt by some farmers as to the existence of a market for hogs and other farm products is indeed entirely disposed of by the experience of the Western Packing Company, Ltd., and other similar organizations.

Mr. H. V. Kobald, the president of the company, is ably seconded in his efforts by the vice-president, Mr. R. M. McLeod.

CHARLES E. WILLIAMS

Mr. Charles E. Williams, barrister, Winnipeg, carries on a general law practice, but specializes in mercantile law, the investing of funds for foreign and home clients, and the arranging of mortgages, loans, &c.

Born in Winnipeg in 1885, he studied first at Manitoba University, and took his degree of B.A. at McGill University in 1908. Previous to entering into practice for himself, Mr. Williams for three years was articled to Messrs. Campbell, Pitblado & Co. He was called to the Bar in 1911.

WILLIAMSON REALTY COMPANY

The business conducted under the title of the Williamson Realty Company was founded in 1908. All classes of property are handled, with the exception of the more speculative type of subdivision. The purchase and sale of Winnipeg city property and business and residential plots in Transcona form the chief transactions of the firm. Transcona is an outlying suburb of Winnipeg and is the scene of extensive operations on the part of the Canadian Pacific Railway, which is building very large shops there.

The firm is under the management of Mr. S. Williamson, an Eastern Canadian who has been long in the West. Mr. Williamson states that the period of financial stringency through which the West is passing has by no means checked the progress of real estate values in Winnipeg.

WINNIPEG PAINT AND GLASS COMPANY, LTD.

The Winnipeg Paint and Glass Company was established in 1902 by Messrs. Edward Cass, James McDiarmid, and John Carr. The business at that date consisted solely of paint and glass, the capital of the firm was \$25,000, and but ten hands were employed. The scope of the business has since been extended to include lumber, sash and doors of all descriptions, mantels, tiles, grates, and builders' hardware. The capital of the company has been increased to \$1,000,000 and 250 hands are employed in the factories, while the office staff comprises 80 members. From the early days of the enterprise success rewarded the efforts of the company. Towards the end of 1902 trade had already rendered large extensions necessary. The capital stock was increased to \$150,000, a six-story warehouse was erected, and a warehouse site for storage purposes was secured on the Canadian Northern Railway

tracks, and sashes and doors were added to the list of its goods. The board of directors was strengthened by the inclusion of Mr. R. W. Paterson. It was not long, however, before the new buildings became unable to cope with the company's business, and a large block of land was purchased in Fort Rouge, a suburb of Winnipeg, on which were erected one of the largest planing mills in the city, a large storage warehouse for sash and doors, and extensive lumber yards, stables, &c. This necessitated a further increase in capital, which was enlarged to \$500,000. At the same time the company's attention was directed to the provinces of Alberta and Saskatchewan, where trade was growing as rapidly as in Manitoba. A large warehouse was erected in Calgary and later others at Saskatoon, Swift Current, and Edmonton. At the latter place the company trades under the title of the Edmonton Paint and Glass Company, while at Calgary it is known as the Calgary Paint and Glass Company.

The manufacture of sashes and doors has grown to be one of the largest departments of the business, and the planing mill at Fort Rouge is exceptionally well equipped with machinery and stocked with a fine selection of rough and dressed lumber and interior finish in hard and soft wood, paint and glass occupying second place in importance. The company obtains its supplies of paint from some of the leading manufacturers in Canada and other countries and specializes in the products of the Martin-Senour Company, Ltd., in which it holds a half interest.

The latest departure in the operations of the company consists of a marble factory, which is now being erected at St. Boniface. The demand for marble work in Western Canada is increasing very rapidly, and the company's plant will be as modern and complete as possible. Marble will be obtained from Italy, Canada, and the United States. A new office and store building, which will include showrooms for different departments, is now being erected in Winnipeg at a cost of \$300,000.

The three founders of the company still take an active interest in its operations, Mr. Edward Cass being president, and Messrs. James McDiarmid and John Carr vice-presidents. Mr. R. W. Paterson is secretary-treasurer.



THE PARK, PORTAGE LA PRAIRIE.

SOUTHERN MANITOBA



IN 1870 Manitoba was incorporated as a province, the population then being about 12,000. It was not until 1878, however, that the province first assumed any importance, the first railway crossing its borders in that year. A few years afterwards the Canadian Pacific Railway entered the province, and in 1886 the first through train from Montreal to Vancouver passed through Winnipeg. From that time development has gone rapidly forward, and Manitoba has now a population of approximately 500,000 persons.

Practically the whole of this population is settled in what is here called Southern Manitoba—i.e., that part of the province lying south of the 52nd parallel of latitude. The railway that entered the province from the United States in 1878 brought a number of farmers who settled in the districts contiguous to the International boundary, and numbers more arrived from Eastern Canada and Great Britain in the eighties, when the Canadian Pacific Railway Company had laid its line to Winnipeg. At first the settlers mainly took up land in the country south of the transcontinental railway, but gradually, as

free land in that district became more and more scarce, the trend of colonization spread to the north of the line.

The country in Southern Manitoba is mainly of a level or slightly rolling nature. In many places bluffs of poplar and spruce trees are frequent, although in isolated districts the prairie presents the same unbroken horizon that is so typical of the more westerly provinces. Streams and small lakes abound, and many pretty spots may be found scattered throughout the country. Souris, Killarney, Neepawa, Minnedosa, and Selkirk are perhaps the more attractive towns, though the scenic charms of Manitoba are by no means confined to these places. Here and there are low ranges of hills, which, besides adding to the beauty of the countryside, often exercise a moderating influence over the climate. Of these the Pembina, Turtle, Riding, and Duck Mountains are the most important. North of Winnipeg are the larger lakes of the province. Throughout almost the entire province—at any rate that part of the province lying to the west of Lake Winnipeg—an unusually fertile soil is a prominent feature. In the Red River Valley, the district surrounding Carberry, and the Portage Plains the soil is exceptionally rich. In this connection the following extract from a report of Mr. R. Chalmers, a member of the

Geological Survey of the Dominion Government, may be quoted :

“The plains or prairies of the Canadian North-West are really the upper or northern extension of the great valleys of the Mississippi and Missouri Rivers into Canada. The materials constituting the surface deposits of this great prairie region are of different kinds, as is shown by the following general section of the beds in descending order :

“1. A dark or blackish tough loam, containing some sand and silt. The thickness of this deposit is variable ; sometimes it is only a few inches, while in local areas it is 8 to 10 ft. or more. So far as it has been studied it seems to be a vegetable formation which, in the lower grounds, grew in shallow lakes, ponds, and swamps, accumulating *in situ* for ages. Dead and decayed water and marsh plants, together with peat and other vegetation growing in moist places, seem to make up the bulk of this deposit. The inter-mixed fine sand and silt have probably been carried into the swamps and ponds by rains, wind, &c., from the higher and dried grounds surrounding them. The occurrence of this black soil on the higher level tracks indi-

SOUTHERN MANITOBA

cates that these were also marsh and swamp lands at one time. This black soil is the formation which makes the plains so fertile.

"2. Beneath the black loam just described a gray clay of variable thickness occurs almost everywhere on the plains. From this clay considerable quantities of common brick are manufactured. It seldom exceeds a thickness of 4 or 5 ft., and generally contains more or less sand, and frequently a few pebbles.

"3. Below this lies a harder clay, somewhat similar to No. 2, but with compact, rusty strata, often called 'hardpan.' These harder strata sometimes alternate with clay of a pebbly or coarse texture."

Agriculture in Southern Manitoba is principally confined to grain cultivation, and for years the quality of wheat grown in the province has had an enviable reputation in the markets of the world. Probably the best milling wheat grown bears the name of "Manitoba No. 1 Hard," after the province that first brought it into prominence; this grade is now grown throughout the Canadian West. The average wheat yield per acre for the 20 years ending 1912 is given as 18.49 bushels; oats over a similar period show an average of 36.60 bushels, while barley has yielded 28.80 bushels. Flax, a crop that has become very popular during the past two years, has returned an average of 13.22 bushels for a period of 22 years. Despite the high average obtained, however, the farmer who relies upon his grain crop to meet his liabilities has too often been disappointed. Grain growing is too speculative a branch of farming to be entirely satisfactory, and it is generally conceded that the best financial results are obtained from mixed or diversified farming. Very gradually the more progressive farmers are adopting this branch of husbandry, devoting more and more of their land to growing fodder crops, and increasing their stocks of cattle, horses, and pigs each year. The movement is given every encouragement by the Dominion and Provincial Governments, but the progress made is regrettably slow. The farmers are fully alive to the advantages of mixed farming, but are hampered by a number of obstacles. Chief among them is the lack of the necessary capital with which to

purchase stock, build sheds, and meet other expenses incidental to the establishment of a "mixed" farm. Too many of the farmers have indulged in over-speculation in real estate, and find that all their surplus money is required to meet the periodical payments on town lots, &c. Many have not finished paying for their farms, while others have been unable to resist the persuasive ability of the implement agent, and have to devote too large a portion of the proceeds from their crops to paying for unnecessary machinery. Sooner or later, however, mixed farming must become the principal agricultural industry in Manitoba. With its bluffs and streams, good markets, and efficient transportation facilities, the province is eminently adapted to stock raising and dairy farming.

Brandon.—Brandon, the second city in Manitoba, is situated upon the main line of the Canadian Pacific Railway, about 133 miles west of Winnipeg. Unlike many cities of the West, it is far from flat and uninteresting in appearance, for the streets slope upwards from the swiftly flowing Assiniboine, and about it the country is undulating and well treed. From the point of view of the average citizen the city is admirably suited to residential purposes. The streets are lined with trees, spacious grounds adorn many of the residences, hedges and shrubs abound, and Brandon is well cared for by its Municipal Council, having clean, well-paved streets, a first-class water and sewage system, and other city conveniences. It is a divisional point on both the Canadian Pacific and Canadian Northern Railways, which constantly increase their trackage and transport facilities. The Canadian Pacific Railway Company recently announced to the Dominion Government Railway Commission that they would construct a four-track system from Fort William to Brandon. The third great transcontinental line, the Grand Trunk Pacific, is now being constructed into Brandon. Another factor that tends to make this city valuable to manufacturers is the presence of the Great Northern Railroad of the United States, which provides direct communication to the markets south of the International boundary. The district of which Brandon may be described as the distributing centre has an area of 32,500 sq. miles, and includes over 200 small towns, villages, and hamlets, containing about 3,500 retail merchants, 141 banks, and a great farming population.

Statistics relating to farm produce grown within this territory during the year 1912 were recently prepared by the president of the local Board of Trade, who reported as follows:

Wheat	...	...	47,339,664 bus.
Oats	...	...	77,637,192 "
Barley	...	...	24,313,728 "
Flax	...	...	1,971,597 "
Rye	...	...	60,041 "
Peas	...	...	32,552 "
Potatoes	...	...	6,368,860 "
Roots	...	...	2,600,670 "
Hay crops, cultivated	...	...	237,608 tons
Hay crops, native			322,010 "

But the business of the wholesale dealers and the manufacturers of the city is by no means restricted to the district to which these figures refer, since the commerce of the city extends throughout the prairie region from Winnipeg to the Peace River.

Brandon contains 10 chartered banks, 15 churches, numerous schools, and 16 hotels. Amongst the latter passing reference may well be made to the handsome edifice erected at a cost of \$500,000 by the Canadian Northern Railway. Possibly no better indication could be given of the future which, in the opinion of those competent to judge, awaits Brandon than is provided by the construction of this large and costly building.

The banks already mentioned as owning branches within the city are the Bank of Montreal, the Canadian Bank of Commerce, the Merchants Bank, the Dominion Bank, the Royal Bank, the Bank of British North America, the Imperial Bank, the Northern Crown Bank, the Union Bank, and the Bank of Hamilton.

A unique civic convenience is that known as the central heating system. This system, which is operated by the Electrical Light and Power Company, enables merchants and manufacturers to heat their premises at a low cost, and relieves them of all trouble incident to the stoking and upkeep of furnaces. Heat, it may be explained, is provided by exhaust steam from the power plant.

Telephones within the city are operated by the Manitoba Government, the number of subscribers in 1912 reaching 2,150.

The population of the city, while given in the Dominion Census of 1911 as 13,839, undoubtedly exceeds this figure. A direc-

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tory published locally raises the total to 18,175. The municipal census of Brandon taken by the police department early in 1913 showed the population to be 17,280, without including the inmates of public institutions or the floating population at the hotels of the city.

Dauphin, a town of some 5,000 inhabitants, lies a little to the west of Lake Dauphin, an inland sea which was given its name by the French explorer La Vérendrye in honour of the heir to the

most of the milk, butter, and other commodities produced on the farms.

By means of the various branches of the Canadian Northern Railway the town has direct communication with Winnipeg, Edmonton, Brandon, Port Arthur, and Winnipegosis. It will also be connected with the Hudson's Bay Railway when that line is completed. The Canadian Northern Railway Company has large shops and round houses attached to its station, where several hundred men are employed, the

attached, two large public schools, employing 20 teachers, who impart instruction to some 500 children, and six churches, belonging to the Presbyterian, Methodist, Anglican, Baptist, Roman Catholic denominations, and the Salvation Army. Mention should also be made of the hospital, which was built and is maintained by the municipality. There are 26 beds at the disposal of patients, whilst the staff includes a superintendent and seven nurses. Banking facilities are provided by the Bank of



BEAUBIER BROS.—CANADIAN BANK OF COMMERCE—JOHN A. SMITH.

1. JOHN E. SMITH BLOCK, BRANDON.

2. CANADIAN BANK OF COMMERCE, BRANDON.

3. HOTEL CECIL, BRANDON.

French throne. The town is now about 16 years old, and during its short existence has become important as the centre of a fruitful agricultural district. The surrounding country, well watered by numerous streams, is adapted to both grain growing and mixed farming, the open stretches of prairie being frequently relieved by groves of poplar and clumps of willow-trees, affording ample shade to cattle and other stock. Much of the dairy produce is shipped to Winnipeg, although in Dauphin itself a market is assured for

pay roll constituting one of the chief assets of the town.

Dauphin is the judicial centre for a large neighbouring territory, a distinction it has enjoyed for about 18 months. The Dominion Lands Department has also established a sub-office in the town, whilst much merchandise passes through the local customs house. The Courthouse, Land Titles Office, and the Customs House are among the principal buildings in the town, in which category may also be included the Town Hall, to which a fire station is

Ottawa, the Canadian Bank of Commerce and the Union Bank of Canada.

Dauphin owns and controls its own power plant, and is contemplating the erection of a hydro-electric plant on the Mossy River, 30 miles from the town. It is estimated that such a plant would deliver 4,000 horse-power to the town. In its water supply Dauphin is exceptionally fortunate, the water being obtained from a small lake in the Riding Mountains. The waters of the lake are 1,200 ft. above the level of the town, and are conveyed to the

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reservoir for the use of Dauphin by a gravity system.

Portage La Prairie.—This, the third city in Manitoba, is situated 56 miles west of Winnipeg, in the centre of the prolific Portage Plains, and is one of the important railway junctions of the province. The main transcontinental line of the Canadian Pacific Railway passes through the town, which is also on two other transcontinental lines, the Canadian Northern Railway and the Grand Trunk Pacific. A branch line of the Canadian Northern Railway gives access to Lake Manitoba, and direct communication with the United States is afforded by the Great Northern Railway.

The excellence of its transportation facilities has induced many of the largest wholesale firms in Canada to erect branch warehouses at Portage La Prairie, and the city is the distributing centre for a large area. The close proximity of Winnipeg and Brandon possibly preclude the city from ever reaching very large proportions, but it continues to attract the merchant and manufacturer, and should maintain a steady growth for many years.

The Portage Plains are among the most fertile districts of Manitoba, and have been under cultivation for many years. Consequently it is not surprising to find that a considerable number of the residents are retired farmers, who find in the city the conditions best suited to the manner of life to which they are accustomed. Portage La Prairie was incorporated as a town in 1885, and during the ensuing 33 years an ever-progressive council has been busy in making and improving roads, laying out parks and playgrounds, and installing those public utilities that modern communities demand. Consequently one finds well-kept roads, flanked by stone pavements or neat wooden sidewalks, open spaces devoted to athletic and other pastimes, and the other attributes of a well-ordered and up-to-date community. Many of the streets are lined with shade-trees which combine with the well-kept lawns of the residences to make the principal thoroughfares attractive at all times. Dufferin Avenue and McLenagher Street may be singled out as being especially picturesque. Only a few minutes' walk from the post-office is Island Park, where the residents find recreation and amusement. Here is situated the fine hall and buildings of the Agricultural Society, together with an excellent race-track and athletic grounds.

The park is a favourite spot for picnics, the many beautiful trees providing ample shelter from the sun or wind.

Portage La Prairie is the home of several public institutions, including the Home for Incurables, the Provincial Training School, the Old Folks' Home, and the Indian School. Other institutions comprise a collegiate institute and normal school, and four large public schools. Banking facilities are provided by six chartered banks, while travellers will find every convenience in the six hotels.

Selkirk.—Almost midway between the city of Winnipeg and the lake of the same name lies the town of Selkirk, the first home of the early Scottish settlers who entered Western Canada under the auspices of Lord Selkirk.

Situated on the Red River, the town is the port of entry and exit for the traffic of Lake Winnipeg, and the importance of its associations is fast being overshadowed by the increasing commercial importance consequent upon its geographical position. The traffic of Lake Winnipeg embraces large quantities of freshwater fish, sawn lumber, timber, merchandise, and furs, all of which finds its way to market in Selkirk boats and through Selkirk mills and warehouses. The deepening of the Red River has given the town access to Winnipeg by water, and the two places are also connected by the Canadian Pacific Railway and electric tramway system. The distance between Selkirk and Winnipeg is 24 miles, and the journey occupies 40 minutes.

The surrounding district is well treed, and offers many attractions to holiday-makers, who visit the town in large numbers. The scenery has also induced many business men of Winnipeg to erect houses in Selkirk and to reside there during the summer months. A good electric tram service enables them to enjoy the benefits of living away from the crowded city and at the same time to be within reasonable distance of their offices and places of business. In the matter of public utilities Selkirk is probably as well endowed as Winnipeg. Electric lighting is general throughout the town, and there is a thoroughly adequate water and sewerage system owned by the municipality. The business streets and chief residential thoroughfares are flanked by granolithic pavements, and everything possible is done to keep the roads clean and attractive. There is an excellent hospital, three good hotels, a branch of

the Dominion Bank of Canada, three schools, and various churches. The town also possesses a free public library, which is well patronised by the 3,200 inhabitants.

Minnedosa.—Minnedosa, with a population of 1,800, is one of the largest towns on the Winnipeg-Edmonton route of the Canadian Pacific Railway, and is surrounded by an important mixed farming district. The activities of the town are mainly confined to supplying the needs of the neighbouring farmers, and the place has little perhaps to recommend it as a commercial or industrial centre. The farm lands in the vicinity, however, are well worth the attention of the prospective agriculturist, especially if he intends devoting his attention to diversified farming. For this branch of agriculture the soil and park-like nature of the land is admirably adapted, as many farmers have found to their profit. An abundance of water for cattle is afforded by springs, sloughs, and small lakes.

Hitherto the town authorities have not considered the installation of a water system to be justified by the size of the population, albeit this is a matter to which their attention will probably shortly be given. In the meantime water is easily obtained from wells of comparatively slight depth. Minnedosa is exceptionally fortunate, however, in the matter of power. The Little Saskatchewan River was a potential source of supply that could not long be overlooked, and a company was formed to undertake the construction of a dam, power-house, and other works, which together with the installation of machinery have cost about \$140,000. Consequently the town has an abundant supply of power for domestic and industrial purposes.

Among the principal buildings must be mentioned the Court House and Jail, an exceptionally fine edifice of white stone, surmounted by an ornamental dome. Scarcely less imposing is the Post Office and Customs House building, while among the schools is a High School of generous proportions. The various religious denominations are well represented as usual, while the Union Bank of Canada and the Bank of Hamilton have both established branches in the town.

Souris.—Souris, a divisional point on the Winnipeg-Arcola Regina branch of the Canadian Pacific Railway, is situated in one of the prettiest and most productive districts in Manitoba. The many natural advantages of the town are exercising their



1. COURT HOUSE, BRANDON.

2. FIRE STATION, BRANDON.

3. AGRICULTURAL COLLEGE, BRANDON.

4. CITY HALL AND PRINCE EDWARD (C.N.R.) HOTEL, BRANDON.

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influence on its population, but a still greater impetus is resulting from the action of the Canadian Pacific Railway, which is spending large sums of money in erecting a new station, shops, and other improvements. The town itself has spent \$200,000 on waterworks, \$37,000 for a new high school, and \$15,000 for improvements for the Natural Park and Souris River. The river has given Souris a certain popularity as a summer resort, and many people make it the scene of their annual vacation. A sewerage system has been installed, and artificial light is obtained by means of an acetylene gas plant. The more prominent buildings include three hotels, four churches and three elevators.

Deloraine.—This town is situated in the south-western portion of the province, and may be reached by either the Canadian Pacific or the Canadian Northern Railway. Amongst the manufactures to be found within the town limits are a flour mill with a capacity of 150 barrels per diem, and a stove factory. Ample scope, however, may be found in this progressive community for further enterprise. It has been suggested, probably with good reason, that a creamery, a beet-sugar factory, a brickyard, and a cement block factory could all be successfully conducted from this centre. But it is improbable that Deloraine will be compelled to wait long before coming into its own, since the possibilities possessed by the smaller Canadian towns are already being appreciated by British investors. The surrounding country is purely agricultural, land, from the nature of the transport facilities provided by the railway companies, securing a good figure. No farm in the district is distant more than six miles from a railroad. Speaking generally, unimproved land, of which but little remains to be purchased, can be secured for \$15 per acre, and improved land from \$20 per acre.

The soil, which consists of 15 in. of black loam upon a clay subsoil, has proved peculiarly well suited to agricultural purposes, the district having gained the highest awards for the quality of the wheat produced there. The district has also proved well adapted to mixed farming.

Deloraine contains a population of about 800 persons. It is well supplied with schools, and boasts two private hospitals. The churches are numerous, and in some cases form handsome structures. Amongst the religious communities to be found in the town may be mentioned the Anglican,

Methodist, Presbyterian, and Roman Catholic bodies. Two comfortable hotels provide accommodation for tourists, and two banks, the Union Bank of Canada and the Dominion Bank, have established branches. The streets and private residences are lighted from the gas plant recently erected at a cost of \$4,000. It is anticipated, however, that electric light will soon be installed.

Morris.—The town of Morris, which is distant from Winnipeg about 40 miles, is served by the Canadian Pacific and Canadian Northern Railways of Canada and the Great Northern Railroad of the United States. Whilst the population of this town is given in the Dominion Census of 1911 as 598, it is probable that 700 is today a more correct figure. Two comfortable hotels and several boarding-houses provide accommodation for tourists and business men, and a number of religious bodies, including the Church of England, Presbyterian, German Lutheran, and Roman Catholic, minister to the spiritual needs of the residents.

The streets, which are well cared for by the council, are lighted by acetylene gas, the plant for which was erected by the town at a cost of \$7,500. This light is supplied to private houses at the low charge of two cents per foot. Another instance of municipal ownership is supplied by the water tanks, into which a supply of water is pumped from the Red River. Consumers pay for water by the barrel, the charge for which has been fixed at 2½ cents.

The admirable railway facilities provided by the companies mentioned above have caused Morris to be favourably regarded as a distributing centre, a considerable amount of business being transacted through the medium of the Merchants Bank of Canada, which has a branch in the town. Whilst good openings exist for several industries, such as a beet-sugar manufactory, a grist mill, and a machine repair shop, it is principally as an agricultural centre that the town is known at present. The soil for the most part is level, with about 18 in. of black loam on the surface, and with a clay subsoil. Four elevators are to be found in the vicinity of the town itself, and twelve more are scattered about the district tributary to it.

Amongst the industries at present in operation in Morris may be mentioned two lumber yards and a brick yard, in which

50,000 bricks are produced per diem. The clay from which these bricks are manufactured is all obtained locally, and is said to be the best suited to the purpose within the province of Manitoba.

Alexander is a small town with 375 inhabitants, and is situated on the main line of the Canadian Pacific Railway, 16 miles west of Brandon. There is no water or electric light system, water being obtained from wells. A good school was erected in 1912 at a cost of \$20,000, while other buildings include three churches occupied by the Anglican, Presbyterian, and Methodist denominations, an hotel, and four elevators. Banking facilities are provided by the Bank of British North America.

Altona, with a population of 500, is situated on the Winnipeg to Napinka branch of the Canadian Pacific Railway, 61 miles south-west of the former place. The town does not yet possess such utilities as a water system, sewerage, or electric light plant, but has two good schools, a hotel, and five elevators. The Mennonite denomination has established a church here, while the Bank of Montreal controls the local banking business.

Baldur, a small town with 450 inhabitants, is situated on the Canadian Northern Railway, 60 miles south-east of Brandon. The principal buildings include a school, an hotel, a branch of the Union Bank of Canada, three elevators, and four churches occupied by the Anglican, Methodist, Presbyterian, and Lutheran denominations.

Beausejour, with a population of 1,100, is situated on the main line of the Canadian Pacific Railway, 36 miles east of Winnipeg. An electric light plant supplies light to the inhabitants at 10 cents. per kilowatt hour, while power for industrial purposes costs \$30 per horse-power per annum, less a considerable discount. The town has a large school, comprising four departments, two hotels, and four churches, at which seven denominations hold services. The Northern Crown Bank has established a branch in Beausejour, and an elevator belonging to the Lake of the Woods Milling Company provides storage for local grain crops.

Binscarth, a small town with 450 inhabitants, is situated on the Winnipeg-Edmonton branch of the Canadian Pacific Railway, 210 miles north-west of the former place. The principal buildings in the town include a school, an hotel, a branch of the Northern Crown Bank, and four elevators. The

THE PRAIRIE PROVINCES OF CANADA

Anglican, Methodist, and Presbyterian denominations possess their own churches.

Birtle, with a population of 600, is situated on the Winnipeg-Edmonton branch of the Canadian Pacific Railway, 193 miles north-west of the former place. The town is lighted by gas, and includes among its institutions an Indian industrial school. It also has a public school, two hotels, four elevators, and four churches, while the Union Bank of Canada has opened a branch there.

Boissevain, with about 1,000 inhabitants, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 183 miles south-west of Winnipeg. The Great Northern line from Brandon to the United States also passes through the town. Among the more important buildings may be mentioned the two schools, three hotels, and the five churches built by the Anglicans, Presbyterians, Methodists, Baptists, and Hornerites. Both the Dominion Bank of Canada and the Union Bank of Canada have opened branch establishments in the town. An electric light plant is owned by the municipality.

Carberry, a town of 1,000 inhabitants, is situated on the main lines of the Canadian Pacific Railway and the Canadian Northern Railway. It lies 47 miles east of Brandon. The town has no water system, but possesses both electric light and gas, the former costing 17 cents per kilowatt hour and the latter 10 cents per foot. Both a public school and a high school have been built, together with three churches owned by the Anglican, Presbyterian, and Methodist denominations. Branches have been opened by the Bank of Hamilton, Union Bank of Canada, and the Merchants Bank of Canada, while the travelling public find good accommodation at two hotels.

Carman, with a population of 1,500, is situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, and lies 58 miles south-west of Winnipeg. It is also served by the Canadian Northern and Great Northern Railways. The town is well supplied with public utilities, possessing its own electric light and power plant, and an excellent water and sewerage system. The public school is an exceptionally commodious building, and 10 teachers are employed by the local school board. Banking facilities are afforded by the Bank of Hamilton, Bank of Commerce, and the Union Bank of Canada, and four elevators have a storage capacity for 200,000 bushels.

The town is the judicial centre for the district, and the Dominion Government have also established a Land Titles office there. The various religious denominations are well represented, six churches having been built in the town.

Carlwright, a small town with 350 inhabitants, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 148 miles south-west of the former place. Among the more important buildings are the school, the hotel, three elevators, and the three churches owned by the Methodists, Presbyterians, and Anglicans. Banking business is transacted by the Bank of Toronto.

Crystal City, with a population of 500, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 130 miles south-west of Winnipeg. The town includes a school, branches of the Union Bank of Canada and Home Bank of Canada, two hotels, five elevators, and Presbyterian, Methodist, and Anglican churches.

Cypress River is a small town containing 300 inhabitants, and lies on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 96 miles south-west of Winnipeg. The town possesses a school, an hotel, three churches, five elevators, and a branch of the Union Bank of Canada.

Dominion City, with a population of 430 is situated on the Winnipeg-Emerson branch of the Canadian Pacific Railway, 55 miles south of Winnipeg. The town includes a school, an hotel, three churches, and four elevators.

Elgin, with a population of 400, is situated on the Canadian Northern Railway, 167 miles south-west of Winnipeg. The principal buildings include a school, an hotel, five elevators, and five churches, owned by the Anglican, Presbyterian, Methodist, Baptist, and Hornerite denominations. The Canadian Bank of Commerce has opened a branch in the town.

Elkhorn, with a population of 600, is situated on the main line of the Canadian Pacific Railway, 64 miles west of Brandon. In addition to high and public schools the town is the site of an Indian industrial school. Other buildings include two hotels, three elevators, and Methodist, Presbyterian, and Anglican churches. Banking facilities are afforded by the Canadian Bank of Commerce.

Elm Creek, with a population of 450, is situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 45

miles south-west of Winnipeg. The town includes a school, an hotel, three elevators, and a branch of the Bank of Hamilton. Four churches have been erected by the Methodist, Presbyterian, Anglican, and Roman Catholic denominations.

Emerson, with a population of 1,200, is an important railway town on the United States boundary, being served by no less than five distinct lines. These are the Canadian Pacific Railway, Canadian Northern Railway, Northern Pacific Railway, Great Northern Railway, and Minneapolis, St. Paul, and Sault Ste-Marie Railway. The town lies 65 miles south of Winnipeg, and includes a high and public school, two hotels, and five churches. Banking facilities are afforded by the Bank of Ottawa.

Gilbert Plains, with 600 inhabitants, is situated on the Canadian Northern Railway, 198 miles north-west of Winnipeg. The more important buildings include a school, two hotels, four elevators, and three churches. Both the Canadian Bank of Commerce and the Sterling Bank of Canada have branches in the town.

Gimli, with a population of 575, is situated at the terminus of the Winnipeg-Gimli branch of the Canadian Pacific Railway, 58 miles north of the former place. Lying on the western shore of Lake Winnipeg, the town has some importance as a fishing port and holiday resort. A good school has been erected, and the town also includes two hotels and two churches occupied by the Lutheran and Unitarian denominations.

Gladstone, a town of 900 inhabitants, is situated on the Winnipeg-Edmonton branch of the Canadian Pacific Railway, and lies 90 miles north-west of Winnipeg. It is also served by the Canadian Northern Railway. The town includes a school, two hotels, three elevators, and branches of the Merchants Bank and Bank of Hamilton. Churches have been erected by the Methodist, Presbyterian, Baptist, and Anglican denominations, and the town also owns a hospital, a possession which few Manitoba towns of similar proportions can boast.

Glenboro, a small town of 400 inhabitants, is situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 105 miles south-west of Winnipeg. The more important buildings include a school, two hotels, three elevators, and four churches, owned by the Presbyterian, Methodist, Anglican, and Icelandic denominations. The Northern Crown Bank and

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the Union Bank of Canada have opened branches in the town.

Grandview, with a population of 1,100, is situated on the Canadian Northern Railway, 30 miles west of Dauphin. Waterworks and a sewerage system have been installed, and among the larger buildings are a school, two hotels, five elevators, and four churches belonging to the Anglican, Methodist, Presbyterian, and Roman Catholic denominations. Both the Canadian Bank of Commerce and the Home Bank of

on the Brandon-Miniota branch of the Canadian Pacific Railway, 54 miles north-west of Brandon. The town is lighted by acetylene gas, the charge for which is 2 cents a foot, less 10 per cent. discount. Among other buildings the hospital is important, while mention may also be made of the school, three churches, and five elevators. Branches of the Union Bank of Canada and the Bank of Hamilton have been opened.

Hartney, a town of 800 inhabitants, is

Methodist, and Anglican churches, an hotel, five elevators, and a branch of the Union Bank of Canada.

Killarney, a town with a population of 1,220, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 164 miles south-west of the former place. It is the centre of a well-settled farming district, and is important for its annual exhibition and its growing popularity as a summer resort, the latter being due to its pretty lake. A private electric light plant sup-



1. CENTRAL FIRE STATION, BRANDON.



2. TENTH STREET, LOOKING SOUTH, BRANDON.

Canada have opened branch establishments in the town.

Gretna, with a population of 600, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 70 miles south-west of the former place. It is also on the Great Northern Railway. The town includes two schools, two hotels, six elevators, and five churches, occupied by the Presbyterian, Roman Catholic, Lutheran, Mennonite, and Baptist denominations. Banking facilities are afforded by a branch of the Bank of Montreal.

Hamiota, with 800 inhabitants, is situated

situated on the Brandon-Lyleton branch of the Canadian Pacific Railway, 41 miles south-west of Brandon. It is also served by the Canadian Northern Railway. The larger buildings include a school, six elevators, two hotels, and four churches. Both the Union Bank of Canada and the Merchants Bank have opened branches in the town.

Holland, a small town of 500 people, is situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 86 miles south-west of Winnipeg. The town includes a school, Presbyterian,

plies electricity at 16 cents per kilowatt hour. The town has a very large high school and also a public school, while the Anglican, Presbyterian, Methodist, and Hornerite churches are all buildings of good design and generous proportions. A small private hospital provides accommodation for a few patients, but a larger one is required. There are two hotels, and five elevators adjoin the loading platform. Banking facilities are provided by the Union Bank of Canada and the Bank of Hamilton.

Macgregor, a small town of 500 people is situated on the main line of the Canadian



1. THE NATURAL PARK, DAUPHIN.
3. BIRD'S-EYE VIEW OF PORTAGE LA PRAIRIE.

2. MAIN STREET, DAUPHIN.
4. ANNE STREET, PORTAGE LA PRAIRIE.

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Pacific Railway, 49 miles east of Brandon. The Grand Trunk Pacific line passes within a mile of the town, which includes a school, two unlicensed hotels, three elevators, a branch of the Merchants Bank of Canada, and three churches, belonging to the Methodist, Presbyterian, and Anglican denominations.

Manitou, with a population of 550, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 102 miles south-west of the former place. Among the more prominent buildings may be mentioned the public and normal schools, the two hotels, five churches, and a similar number of elevators. Banking facilities are afforded by the Bank of Hamilton and the Union Bank of Canada.

Miami, with about 200 inhabitants, is situated on the Miami-Somerset branch of the Canadian Northern Railway, 80 miles south-west of Winnipeg. The town includes a school, an hotel, three churches, three elevators, and a branch of the Bank of Hamilton.

Morden, with a population of 1,400, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 81 miles south-west of the former place, and is also the terminus of a branch of the Great Northern Railway. The town is the judicial centre for the surrounding district, the Courthouse and Jail being one of the most important buildings. A large post office was erected during the summer of 1913 to take the place of the former inadequate structure, and other buildings worthy of note are the two schools, the three hotels, and the 10 churches, the latter including a Jewish Synagogue. The Freemasons' Hospital is a valuable institution, and its work is ably supplemented by the isolation hospital. The town has a good electric light plant. There are three elevators, and branches of the Union Bank of Canada and the Bank of Hamilton.

Melita, with a population of 900, is situated on the Brandon-Estevan branch of the Canadian Pacific Railway, 70 miles south-west of Brandon. The town includes a high and public school, two hotels, five elevators, Anglican, Methodist, Presbyterian and Baptist Churches, and branches of the Northern Crown Bank and Union Bank of Canada. There is a good prospect of natural gas being obtained in the district.

Napinka, a small town with a population of 400, is situated at the junction of the

Winnipeg-Napinka and Brandon-Estevan branches of the Canadian Pacific Railway, and lies 59 miles south-west of Brandon. The town includes a school, a private hospital, two hotels, four elevators, and three churches owned by the Anglican, Methodist, and Presbyterian denominations. The Merchants Bank has opened a branch in the town.

Nepawa, an important farming centre with a population of 2,000, is situated at the junction of the Winnipeg-Edmonton lines of the Canadian Pacific and Canadian Northern Railways, 117 miles north-west of Winnipeg. Electric light and water systems have been installed, and the town has two excellent public schools and a superior high school. It is the judicial centre of the district, and the scene of an important summer fair. Four churches have been erected by various denominations, while the banking business of the town is undertaken by four chartered banks—viz., the Union Bank of Canada, Merchants Bank, Canadian Bank of Commerce, and the Home Bank of Canada. There are also two hotels and two elevators.

Ninga, with 300 inhabitants, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 175 miles south-west of the former place. The town includes two schools, an hotel, five elevators, a branch of the Union Bank of Canada, and four churches, owned by the Anglican, Presbyterian, Methodist, and Baptist denominations.

Oak Lake, with about 500 inhabitants, is situated on the main line of the Canadian Pacific Railway, 32 miles west of Brandon. The town includes an hotel, a school, four churches, and four elevators. Banking facilities are afforded by the Merchants Bank.

Pilot Mound, a small town with a population of 500, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 125 miles south-west of Winnipeg. Among the more prominent buildings are the school, two hotels, and the Anglican, Methodist, and Presbyterian churches. There are four elevators, and banking facilities are provided by the Bank of Toronto and Bank of Hamilton.

Plumas, with 400 inhabitants, is situated on the Canadian Northern Railway, 107 miles north-west of Winnipeg. The town includes a school and hotel, two elevators, and three churches, belonging to the Presbyterian, Methodist, and Anglican deno-

minations. A branch has been opened by the Royal Bank of Canada.

Plum Coulee, a small town of 350 people, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 66 miles south-west of Winnipeg. It is also served by the Great Northern Railway. The more prominent buildings are the school, two hotels, seven elevators, and a church. Banking business is conducted by the Bank of Montreal.

Rapid City, with a population of 650, is situated on the Brandon-Miniota branch of the Canadian Pacific Railway, 36 miles north of Brandon, and is also served by a branch of the Canadian Northern Railway. The more prominent buildings include a school, an hotel, four elevators, and five churches, occupied by the Anglican, Presbyterian, Methodist, Roman Catholic, and Baptist denominations. A branch of the Union Bank of Canada has been opened in the town. Electric light at present costs 20 cents per kilowatt, but the plant has only recently been installed and the rate will be reduced as soon as possible.

Reston, with a population of 600, is situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 189 miles south-west of Winnipeg. The town includes a school, an hotel, four elevators, a branch of the Bank of British North America, and four churches, owned by the Presbyterian, Anglican, Baptist, and Methodist denominations.

Roland, a town of 800 inhabitants, is situated at the junction of the Southern Winnipeg-Brandon branch of the Canadian Northern Railway with the Great Northern Railway, and lies 56 miles south-west of Winnipeg. Included in the buildings are a school, an hotel, two elevators, and churches erected by the Anglican, Methodist, Baptist, and Presbyterian denominations. Both the Bank of Hamilton and Union Bank of Canada have established branches in the town.

Rosenfeld, a small town of only 250 inhabitants, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 56 miles south-west of Winnipeg. The town includes a school, an hotel, four elevators, and a German Lutheran church.

Rosburn, with a population of 500, is situated on the Rosburn branch of the Canadian Northern Railway, 90 miles north of Brandon. The town includes a school, two hotels, one elevator, and Anglican, Methodist, and Presbyterian



TOWN COUNCIL, MORRIS, MANITOBA.

1. COURT HOUSE, MORRIS.

2. SCHOOL, MORRIS.

3 & 4 FARM SCENES, NEAR MORRIS.

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churches. Banking facilities are afforded by the Bank of Toronto.

Russell, a town of 750 people, is situated on the Winnipeg-Edmonton branch of the Canadian Pacific Railway, 222 miles north-west of the former place. The town is also served by a short branch of the Canadian Northern Railway. The form of lighting in vogue at present is acetylene gas, which is sold to consumers at 1½ cents per foot, but a project is in hand for the installation of an electric light plant. Included among the more prominent buildings are a public and high school, two hotels, five elevators, and three churches, occupied by the Anglican, Presbyterian, and Methodist denominations. Banking facilities are provided by the Union Bank of Canada and the Merchants Bank.

St. Claude, a small town with 200 inhabitants, is situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway. The town includes a school, a church, an hotel, and an elevator.

Shoul Lake, with 590 inhabitants, is situated on the Winnipeg-Edmonton branch of the Canadian Pacific Railway, 170 miles north-west of Winnipeg. The large buildings include a school, a hospital, three hotels, and four churches, owned by the Anglican, Methodist, Presbyterian, and Baptist denominations. The Union Bank of Canada has a branch in the town, and eight elevators receive the local harvests.

Somerses, a small town of 350 people, is situated on the Carman-Virden branch of the Canadian Northern Railway, 87 miles south-west of Winnipeg. The town includes a public and high school, two hotels, four churches, three elevators, and a branch of the Northern Crown Bank.

Stonewall, a town with a population of 1,400, is situated on the Winnipeg-Arborg branch of the Canadian Pacific Railway, 21 miles north of Winnipeg. An electric tramway between the town and Winnipeg is also in course of construction, as is an electric light and power plant. The more prominent buildings include a public school and collegiate institute, two hotels, four churches, and two elevators. Banking facilities are afforded by the Bank of Hamilton and the Northern Crown Bank.

Treherne, with a population of 650, is situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 77 miles south-west of Winnipeg. An electric light plant supplies light to the inhabitants at a flat rate of 60 cents per

light per month. The large buildings include a public and high school, two hotels, and four churches, occupied by the Anglican, Roman Catholic, Presbyterian, and Methodist denominations. A private hospital has been established in the town, and banking facilities are afforded by the Canadian Bank of Commerce and the Bank of Hamilton. There are four elevators.

Virden.—Virden, an incorporated town of great promise, lying 180 miles to the west of Winnipeg, is situated within the boundaries of the rural municipality of Wallace. This town has the advantage of possessing two lines of railroad, the Canadian Pacific and the Canadian Northern, a fact which contributes towards making Virden a favoured spot with manufacturers. There are, however, other inducements which Virden can hold out to settlers: the land is splendidly suited to agricultural purposes, and small fruits, such as currants and gooseberries, can be cultivated there with the greatest success. Such useful commodities as wood and coal are to be secured at most reasonable prices, whilst the local stores are quite capable of satisfying all the ordinary needs of the residents. The population of this thriving town is over 2,000 and that of the municipality over 10,000. The streets, which are well cared for, are largely fringed with trees, whilst many handsome buildings erected either for public purposes or for use as private residences lend an air of prosperity to the scene. Three comfortable hotels are to be found in Virden, and three banks—the Union Bank, the Bank of Commerce, and the Bank of Ottawa—have opened branches. Other fine buildings are provided by the religious bodies, the Anglican, Presbyterian, Methodist, Baptist, Roman Catholic, and other communities having erected substantial churches. Unlike many towns of similar size, Virden has never been content to send its sick for treatment outside of the district. This enterprising town has, in fact, erected its own hospital, containing 35 beds. The educational facilities are also very good, the town possessing both a public school and a collegiate institute. Other handsome buildings that attract the attention of the visitor are the fine auditorium and the town hall.

Water is obtained from artesian wells and light is manufactured by the acetylene gas plant owned and operated by the municipal council. The charge made for this gas is \$1.75 per 100 feet. Virden is, in fact,

well supplied with those facilities which mark progressive communities. The telephone system is especially complete.

Amongst the more important industries of the district may be mentioned a brick and tile plant, from which 2,500,000 bricks were produced and sold in 1912, and a creamery. The excellent transport facilities offered by the Canadian Pacific Railway and the Canadian Northern Railway, which also runs into the town, should serve in time to increase the number of factories to be found there. A sash and door factory, an abattoir, and an electrical plant are all needed and will doubtless be forthcoming in the near future.

It may be noted that the energetic town council of Virden is thoroughly alive to the advantages possessed by the locality. To manufacturers prepared to operate within the district they are offering free factory sites and other inducements. Property within the town naturally varies in price according to its location. Speaking generally, residential property fetches from \$50 to \$250 per lot and business sites from \$500 to \$1,000 per lot. Unimproved land, which when situated comparatively near to the centre of the town will frequently prove a most remunerative investment, is valued at from \$15 to \$25 per lot. Improved land secures from \$30 to \$60 per acre. The soil, which is composed of about 2 ft. of black loam upon a clay subsoil, is well suited to mixed farming.

Great assistance is provided to the farmer by the railway lines which intersect this portion of the province, no farm in the district being separated from transport facilities by a greater distance than six miles. Another, and in this case a natural advantage, is supplied by the numerous creeks of the Assiniboine River, which provides an excellent supply of water throughout the locality. The extent to which the farmers of the municipality have profited by these advantages is shown by the fact that in 1912 they shipped to various markets no less than 503 cars of grain and 42 cars of stock.

Waskada, a small town of 400 people, is situated on the Brandon-Lyleton branch of the Canadian Pacific Railway, 95 miles south-west of the former place. The town is lighted by natural gas, and includes a school, Methodist, Anglican, and Presbyterian churches, four elevators, and a branch of the Union Bank of Canada.

Wawanesa, with 400 inhabitants, is

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situated on the Canadian Northern Railway, 25 miles south-east of Brandon. The town includes a public school, an intermediate school, two elevators, an hotel, and three churches. The Union Bank of Canada has opened a branch in the town.

Winkler, with 500 inhabitants, is situated on the Winnipeg-Napinka branch of the Canadian Pacific Railway, 74 miles south-west of Winnipeg. The town includes a school, two churches, an hotel, six elevators, and a branch of the Bank of Hamilton.

THE BRANDON MACHINE AND IMPLEMENT WORKS

The Brandon Machine and Implement Works are both manufacturers of and dealers in land packers (machines for pulverizing and packing the ground to conserve the moisture), furnaces, trip hammers (made for blacksmiths' use, in 25 and 50 lb. blows), saw frames, structural steel and iron, and other implements. The business was virtually started by Mr. T. D. Stewart, who in 1912 took over the plant from the Connell Iron Works, by whom it had been operated since October, 1911. Mr. T. D. Stewart, it may be noted, is the sole responsible proprietor. The plant covers an area of 90,000 sq. ft., and consists of a complete general outfit of lathes, milling machines, drill presses, punches, shears, saws, shapes in iron and wood working, trip hammers, screw-cutting machines, &c. The firm makes a speciality of general repair work and general machine work.

The operations of the business extend through the Prairie Provinces. At the time of writing the works are engaged upon the manufacture of lighting standards. These standards are on order for the city of Brandon. The works employ about 25 men. A minimum of 35 cents per hour is paid to machinists and 33½ cents per hour to moulders. The maximum in both cases is 45 cents per hour.

Mr. Whelpley, the responsible manager, devotes his energies entirely to the business under notice. He is a native of St. John, New Brunswick, and came West in 1906.

CENTRAL CANADA INSURANCE COMPANY

The Central Canada Insurance Company was incorporated in 1898 under an Act of the Legislature of the Province of Manitoba,

with head office in Winnipeg. In 1903 the company was reorganized, and the head office was removed to Brandon, since when its business has shown remarkable growth. It transacts fire, live stock, and hail insurance, and its premium income in 1904, the first full year of operation under the new management, amounted to \$54,307.52. In 1912 its premium income was \$704,444.20. In the transaction of business the Central Canada Insurance Company is closely associated with the Saskatchewan Insurance Company at Regina and the Alberta-Canadian Insurance Company of Edmonton. Each one of the three companies is incorporated and organized entirely independently of the others, but they are all under one general management, which has the effect of securing uniformity of practice and efficiency of operation at a minimum expense. The field work of the companies is carried on through an agency company incorporated in Manitoba under the name of Insurance Agencies, Ltd., and which is operated entirely for the benefit of the three companies. General agencies, in the name of Insurance Agencies, Ltd., have been established at Winnipeg, Brandon, Regina, Saskatoon, Edmonton, and Calgary. Through these agencies the business transacted by the companies in the three Prairie Provinces is handled. This arrangement places the companies in close touch with their patrons, and enables them to give a standard of service excelled by no other insurance organization in the same field.

The aim of the management of this organization is to secure quality rather than quantity in the business it undertakes, and the figures quoted would indicate that the companies of which it is composed enjoy in a marked degree the confidence of the people of the Prairie Provinces. The subscribed capital of the company under notice is \$300,000. Mr. Joseph Cornell, the general manager, who with his associates purchased the company in 1912, possesses an experience of the insurance business dating back to 1900.

CHARLES S. DOBBYN

The farm of 1,400 acres, owned by Mr. Charles S. Dobbyn, originated with a half-section of land "homesteaded" in 1882. In 1885 the first addition was made in the shape of a further half-section, purchased from the Canadian Pacific Railway at

\$6.50 per acre. In 1897 and 1898 Mr. Dobbyn added first a full section and then a quarter-section; the land in this instance being purchased by him from his father, Mr. E. F. Dobbyn, \$21 per acre and \$15 per acre being the price paid. The farm carries a brick house containing 13 rooms, fitted with a water system and all conveniences; whilst brick stables, steel roofed, provide accommodation for 22 horses and 50 cattle. At present 23 horses and 26 head of cattle, valued respectively at \$3,500 and \$2,000, are to be found on the farm.

Excepting 140 acres, the entire property is under cultivation:

Wheat (Red Fife and Marquis)	800	acres
Oats (Abundance)	... 210	"
Barley	... 90	"

200 acres are fenced, and good water is to be obtained at a depth of 14 ft. Farming implements carried include three 8-ft. binders, an eight-furrow engine gang, two disc harrows, two sets of drags, two mowers and rake, a surface packer, an oat chopper, four gang ploughs, two drills, and nine wagons, representing an approximate value of \$5,000.

Four granaries have been erected on the property, three of which have a capacity of 1,000 bushels each, and one of 5,000 bushels. Melita is about 3¼ miles from the farm, which is therefore conveniently situated for the marketing of the grain which it produces.

EVANS AND COLEMAN, LTD.

The firm of Evans and Coleman, Ltd., of Brandon, Manitoba, was incorporated under this title in January, 1912, with a capital of \$10,000, to carry on and develop its growing business of real estate, investments, loans, fire insurance, rent collections, mortgages, &c., which Mr. Evans had established in the city 16 years before. Real estate in and around Brandon shows a steady increase in value that has nothing in common with the forced growth of many Western cities. The firm acts largely for capitalists in this branch of the business, and finds in it a large outlet for its activities. Investments are extensively entered into by citizens of Brandon as well as by investors from outside sources. Where real estate buying and selling is so much to the fore, loans and mortgages are naturally often necessary to carry out



J. R. SNIDER. GOOD HOPE FARM, PORTAGE LA PRAIRIE.
 VIEWS ROUND HOMESTEAD SHOWING (1) HEAVY TEAM, (2) LINE UP OF FARM HORSES, AND (3) SHEEP.

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such operations. The fire insurance department is one to which Messrs. Evans and Coleman, Ltd., have devoted considerable attention, and in this connection it is well to note that Brandon is substantially built, so that rates are correspondingly low. Many important insurance companies are represented by this firm.

Mr. Evans, as the name indicates, is of Welsh ancestry, but his parents emigrating to the Dominion, he was born at Lindsay, Ontario. As he grew up he was engaged with his father in the grain trade in that fertile province, until the potential possibilities of the quickly developing West caused him to leave Ontario. He then settled in Brandon as a likely centre, carrying on business alone until 1912, when Mr. Coleman joined him.



GOOD HOPE FARM

This farm, which is situated about three-quarters of a mile from the centre of Portage La Prairie, was taken over by Mr. J. R. Snider in 1908 from his father, Mr. E. W. Snider, who had owned it since 1879.

The farm consists of 425 acres, all of which are under cultivation, and upon which wheat, oats, barley, and potatoes are grown. For some years past the crop of wheat has averaged 25 bushels to the acre; the best recorded crop, however, has reached as high a total as 45 bushels to the acre. Whilst wheat is cultivated upon about one-third of the total area, oats and barley are very extensively grown, the crop of the former averaging 60 bushels to the acre, though it has run as high as 90. The greater part of the oats, it may be noted, is consumed upon the farm. The average yield of barley for some years past has been found to be between 35 and 45 bushels to the acre.

The farm produce, which is marketed locally, always produces good prices. The price of wheat has varied from 70 cents to \$1 per bushel.

Live stock owned by Mr. Snider consists of 22 horses (Percherons and Clydesdales), six cows, about 140 head of sheep, many of which are pure-bred Leicesters, and about 120 fowls of the Plymouth Rock variety.

It has been found that potatoes producing 200 bushels to the acre can be grown in this district without the use of any fertilizer, whilst the fields, which have been cropped

for 36 years past, show no signs of exhaustion.

Mr. Snider entered Manitoba from North Toronto in 1880. He is a major in the 99th Regiment of Manitoba Rangers, and has seen a great deal of military service. As a member of the 90th Regiment he was actively engaged in the fighting at Fish Creek and Batoche which occurred in the North-West Rebellion of 1885. As an officer in Strathcona's Horse and later in the 2nd Canadian Mounted Rifles, Mr. Snider saw service in the Boer War. It may be mentioned that during his absence in South Africa, which lasted for a period of about one and a half years, the Good Hope Farm was successfully managed by Mrs. Snider.



JOHN ISAAC

The farm owned by Mr. J. Isaac consists of 800 acres, and is situated about 5 miles from Souris. Like many large farms in Western Canada, Mr. Isaac's property has been gradually acquired. Three hundred and twenty acres were "homesteaded" and pre-empted in 1880, a quarter-section was purchased in 1905 at \$9 per acre, and a further half-section in 1906 at \$10 per acre.

The buildings carried on the farm include a large framehouse of nine rooms and stables, providing accommodation for 24 horses and 25 cattle. The live stock actually carried consists of 23 horses (Clyde grade stock), 14 head of cattle, and 15 pigs.

The farming implements include a threshing outfit, eight-furrow engine gang plough, two 8-ft. binders, and a full stock of smaller implements. A windmill and gas engine have been erected for pumping water.

With the exception of 60 acres the entire farm is under cultivation:

200 acres	being devoted to	wheat
150	"	"
230	"	"
		oats
		barley.

It may be added that the stock carried on the farm has been valued at \$6,000, whilst the farming implements add a further \$4,000 to this total.



DANIEL C. LOUITTIT

The farm owned by Mr. Daniel Louttit consists of 480 acres, situated about 6½ miles from Melita. Mr. Louttit originally purchased a quarter-section from the Canadian Pacific Railway, paying for

this land in 1894 at the rate of \$4.50 per acre. In 1899 he acquired a further quarter-section. The property carries a framehouse containing nine rooms. Stabling has been erected for 15 horses and the same number of cattle, the stock carried reaching 17 horses and 11 head of cattle, valued respectively at \$3,000 and \$800. A gasoline engine has been purchased for woodcutting and other purposes, and the farming implements to be found on the estate reach an estimated value of \$2,500. The farm is all fenced excepting 100 acres, and 340 acres are under cultivation. Of this total 200 acres are under wheat (Red Fife and Marquis), 60 acres under oats (Banner), and 23 acres under barley; 125 acres are devoted to pasture, and the balance is summer-fallowed.

Two granaries have been erected, containing 4,000 and 2,000 bushels, and an implement shed, 14 by 32 ft., is also to be found on the estate. The farm is well situated for marketing purposes, the nearest elevator being within a radius of 3 miles.

Finally, it may be added that good water is readily procurable, and that the River Souris runs through the pasture.



MCCULLOCH AND SONS, LTD.

The intrinsic merits of Manitoban wheat are so fully recognized in the great grain markets of the world that the demand for it, despite the continued development of the farm lands of the province, is continually in excess of the supply. Messrs. McCulloch and Sons, Ltd., at their large flour mills at Souris, Manitoba, obtain their supplies of grain very largely from local sources which yield the fine hard ears characteristic of Manitoba. Neighbouring provinces are also drawn upon to provide those differences of wheat that are occasioned by peculiarities of soil and climate, which, being judiciously blended by the company, produce a variety of flours susceptible to much diversity of treatment.

When started in 1882, under the title of Messrs. McCulloch and Herriot, the original plant had a capacity of 125 barrels of flour per 24 hours, which was considered a great output in those days. In 1898 the mills had to be rebuilt to allow of an increase to 350 barrels per day, whilst by 1910 the original output had increased five-fold. In 1913 the company will manufacture 800 barrels of flour each round of the clock. The head of the company is Mr. G. McCulloch, a native of Scotland

SOUTHERN MANITOBA

who has resided in Canada as a mill builder for the lengthy period of 55 years. He received his training in this technical craft and the allied one of draftsmanship in the firm of Goldie, McCulloch & Co., at Galt, Ontario, in which place he remained until 1882. In that year, joined by Mr. Herriot, a native of Galt, and a fellow-worker, he came to Souris, where they started in business. In 1903 Mr. R. J. McCulloch (son of Mr. G. McCulloch), Mr. W. C. McCulloch, and Mr. H. M. McCulloch were made partners in the company.

McKINNON BROS.

The principal farm operated by Messrs. McKinnon Bros. consists of two half-sections of land purchased respectively in 1898 at \$7 per acre and in 1905 at \$25 per acre. The farm holds a framehouse containing four rooms, stables with accommodation for 23 horses and a similar number of cattle, an implement shed, and six granaries with a capacity of 8,000 bushels. Twenty horses and 17 head of cattle, kept on the property, are valued at \$3,500 and \$1,700. Farming implements include a threshing outfit, a 10-furrow engine gang, two 7-ft. and one 6-ft. binders, and a complete set of smaller implements, the total value being estimated at \$5,000.

The property is fenced, and 550 acres are under cultivation, the balance being devoted to pasture and hay. Good water is on hand, and a windmill has been erected for pumping and other purposes. The farm is distant 6 miles from Melita and 3 from Napinka.

A second property consists of a one half-section of land to the east of the main farm. Here a brick veneer house with six rooms and a stable and granary, the latter holding 3,000 bushels, have been erected. This half-section is half fenced.

A third property, situated south of Napinka, carries a framehouse of six rooms, stabling for 23 horses, a windmill, granary, and hog pen.

A fourth half-section, lying to the west of Napinka, contains a framehouse of four rooms, stabling for 12 horses, and two granaries containing 1,000 bushels each. Messrs. McKinnon Bros. also own a half-section of prairie land at Lloydminster, Saskatchewan.

WILLIAM AND WALTER OXLEY

Messrs. William and Walter Oxley afford an admirable example of what may be accomplished by the determined homesteader. The first homestead, situated about 5 miles from Melita, was acquired in 1882, and consisted of a half-section. To this piece of land a second half-section was added in 1906 at a cost of \$25 per acre. The original homestead carries stabling for 25 horses and 16 cattle, a framehouse of nine rooms, two granaries holding 6,000 bushels, and one portable granary containing 1,100 bushels. Live stock to be found on the farm includes two registered Clydesdale stallions, valued at \$600 and \$700 respectively, and two registered mares valued at \$600 and \$450 each. Thoroughbreds on the farm represent \$2,500, other horses \$2,000, and cattle \$350.

Excepting 80 acres used for pasture, the farm, which consists of 640 acres, is entirely under cultivation:

Wheat is cultivated upon	230	acres
Oats upon	100	"
Barley upon	75	"

Machinery in use upon the estate includes a threshing engine, a six-furrow gang plough, three binders, two drills, one packer, an oat chopper, two gang ploughs, and numerous implements of all descriptions sufficient to work both half-sections.

An additional half-section recently acquired contains a framehouse of five rooms, stabling for 12 horses and 12 cattle, and a granary with a capacity of 2,000 bushels. Water is provided by a well, and the house, situated in a maple grove, is at once picturesque and comfortable. The entire farm is well calculated to display the advantages offered by agriculture in Western Canada.

T. H. PATRICK

Mr. Patrick is the sole proprietor of the business established in Souris in 1883 by Messrs. Hughes and Patrick, to deal in lumber, fuel, and all kinds of building materials. Souris is a typical growing Manitoba town, and as the centre of a rich agricultural country an appreciating demand for the above commodities is experienced.

Since 1886, when Mr. Patrick assumed sole control of the business, he has become much interested in dealings in real estate within the town limits, agricultural lands, &c. In 1911 he developed the "Vowew"

Estate, a tract of 16 acres of land in the south-west corner of Souris. This property is of a gently undulating nature, and is picturesquely intersected by a creek which is a tributary of the Souris River running close by.

The possibilities for mixed farming in the surrounding district are great. Prices at present average \$40 to \$50 per acre, but it is expected that the large influx of settlers will cause prices to tend upwards.

WILLIAM RICHARDSON

This real estate, loan, and insurance business was established in Portage La Prairie in 1881. The firm is chiefly interested in mortgage investments on farms and city properties, which provide 8 per cent. net to the investor. The maximum amount lent is 50 per cent. of a conservative valuation of the property. Local real estate of all kinds is, however, constantly purchased and sold by the firm for clients.

Properties are insured to the extent of 75 per cent. of the value of the buildings, and the policy is executed in favour of the mortgagee.

A considerable business in local real estate is undertaken by Mr. Richardson on behalf of clients.

Mr. Richardson was born in England, and entered Canada in 1861 at an early age. He is chairman of the finance committee of the City Council of Portage La Prairie, and is a member of the executive of the Board of Trade.

RIVER SIDE STOCK FARM

The River Side Stock Farm of 1,280 acres, which is at present owned by Messrs. Dobbyn Bros., was purchased in 1892 by Mr. E. F. Dobbyn, who died in 1912. The farm carries a brick house containing nine rooms, and a stable, substantially constructed upon a stone foundation, providing accommodation for 19 horses and 40 head of cattle. The stock carried includes 19 horses and 70 head of cattle, valued at \$3,500 and \$3,000 respectively. The cattle, it may be added, are registered Herefords. Farming machinery includes a threshing outfit, a six-furrow engine gang, four 8-ft. binders, two disc harrows, two sets of drags, a packer, mower, and rake, an oat chopper, seven wagons, five sheaf racks, and three gang ploughs. The value of

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these implements is estimated to reach \$2,500.

With the exception of 200 acres used for pasturage, all the farm is under cultivation :

Wheat (Red Fife) occupies	650	acres
Oats (Abundance) "	150	"
Barley "	40	"

160 acres are under broom grass. One and a quarter sections are fenced, and good water is procurable at a depth of 10 ft. The nearest elevator (at Melita) is not more than 2½ miles distant.

To the list of buildings to be found on the farm should be added three granaries, containing respectively 4,000, 2,000, and 1,000 bushels. Adjoining the first of these is an up-to-date implement shed.

Finally we may add that the land con-

tains a maple and ash grove, and that both the railroad and the river traverse the estate, which forms a valuable and picturesque property.

I. A. ROBINSON

Mr. I. A. Robinson, the sole proprietor, established this financial agency in Brandon in 1906. The business includes the handling of real estate, business and residential properties in the vicinity of the city of Brandon being principally dealt in. Mr. Robinson's attention is, in fact, practically devoted in its entirety to business within the city and its immediate environs. "Waverley Park," owned by the firm, is a district situated about 1½ miles from the centre of Brandon, bordering the western city limits. If the proposals recently placed before the City

Council materialize, this property will be situated one mile within the city limits. The area of the property is about 80 acres. It is divided into blocks containing building lots measuring 25 by 120 ft. About one-third of the district has been sold locally.

The firm are the local representatives of the London and Lancashire Life Assurance Company. The loan companies represented are the Crédit Foncier, of Paris, and the London and Canadian Loan Company, of Toronto ; fire insurance companies represented by the firm include the Acadia, Connecticut, Occidental, and others. Mr. Robinson, though born in Ontario, comes of English parentage. We may add that he first purchased real estate in Brandon in 1903.



MAIN STREET, WINNIPEGOSIS.



FIELD OF GRAIN.

GRAIN CULTIVATION

BY PROFESSOR S. A. BEDFORD, DEPUTY-MINISTER OF AGRICULTURE, MANITOBA



THE greater portion of the territory included in the three Canadian provinces of Manitoba, Saskatchewan, and Alberta is essentially agricultural in character. A study of the country's physical features will reveal many peculiarities which fit it for the production of cereal crops.

The three Western provinces may be described as a series of separate plains, or steppes, extending westward from the Red River to the Rocky Mountains. The soil of these areas varies greatly. The most easterly part in the Red River Valley is a rich black clay loam, somewhat difficult to cultivate but wonderfully fertile. West of this valley the soil is lighter, but generally quite fertile and suitable for the leading cereals. This lighter soil usually has excellent drainage, is easy to cultivate, and is suitable for crop production in a minimum period of time.

While "the treeless plain" of which we sometimes read is indeed a fact, there are large areas, particularly in the north, covered with scrub and timber. As sources of fuel and rough building material these timbered tracts are of great use to the settler. The soil uncovered by the removal of this timber is found to be exceedingly fertile, very retentive of moisture, and in every way suitable for agriculture.

In its virgin state the prairie of Western

Canada is covered with wild grass and other plants, matted together more or less by the weather of ages. Though seldom tall and rank, these grasses are highly nutritious wherever the soil is well drained, and all classes of live stock thrive on them. Owing to the fact that this sod will become very thin and unproductive if pastured in the wild state for any great length of time, it pays to break it up and sow to grain for a few years, after which it can be re-seeded to some cultivated grass or clover.

Where the native prairie sod is tough and thick, it is customary to break and back-set it preparatory to sowing grain. The breaking of virgin prairie is accomplished with best results by the use of a prairie-breaking plough, of which there are many varieties. These ploughs are propelled by oxen, horses, gasoline, or steam. Each plough has a long mouldboard and a sharp rolling coulter.

New breaking should be done as early in the season as the weather will permit. The plants are then full of sap, and when the roots are cut and the plants turned over by the plough they quickly decay. The first ploughing should be shallow, not more than 3 in. deep. The rolling or packing of the land immediately follows the ploughing, thus helping to retain the moisture and hasten the rotting of the sod; moist soil and green plants lend themselves to thorough packing, which is another reason for rolling immediately after

ploughing. If the furrows happen to be thrown irregularly or are "wrinkled," it is often an advantage to drive the roller or packer in the opposite direction to the ploughing. Proper breaking and packing will leave the land lying comparatively smooth and in the best possible condition for sod rotting.

In six or eight weeks, depending upon the toughness of the sod, the land will be ready for "back-setting." This operation consists in reploughing in the same direction as before but from 2 to 4 in. deeper. This covers up the rotted sod and leaves several inches of loose soil on the surface, ready for a seed-bed. Grain, however, should not be sown until the following spring.

The above system of preparing new prairie land is that which is followed by the best-informed settlers in the prairie districts of the United States, and is recommended by the most successful settlers of the Western provinces in Canada. With the land moist, the weeds killed, and the sod well rotted, all that is required to fit most soils for seed is a few strokes of the harrow. If at all rough, the disk harrow is run over the land once or twice.

All back-setting should be finished before winter; for late summer and early autumn back-setting holds moisture better than spring back-setting.

In some parts of the Canadian West deep breaking is practised, although not

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generally recommended by the best authorities. I shall describe it in the words of Mr. James Murray, of Suffield, Alberta, who has tried it extensively in Alberta, but is not in favour of it. He says :

"Deep breaking consists of ploughing usually from 3 to 5 in. deep. When this system is properly carried out the land is at once packed and the surface cultivated enough at once to fill in all openings between the newly turned furrows with loose soil. During the summer several cultivations are necessary to destroy the growth of grass, and to work up a seed-bed 2 or 3 in. deep. The cultivation also aids greatly in retaining moisture. It is usually necessary to double disk the land twice, following each double disking with the drag harrow. When consistently carried out this method of breaking gives a good seed-bed. If the ploughing has been from 4 to 5 in. deep it furnishes a fairly good reservoir for the storage of moisture. There is, however, not a perfect connection established between the surface soil and the subsoil, and in a dry season this is a serious disadvantage.

"Probably the chief objection to deep breaking is the difficulty of killing the grass with one ploughing. No matter how thoroughly the ploughing may be done, there are depressions which the plough will not reach, and no amount of subsequent disking will root up the grass missed in this way. There is also this objection—that in early breaking (that done before June 15) the grass makes such a determined effort to live that it comes up fresh through the furrows, and it cannot be destroyed with any implement which merely cuts off an inch or two below the surface. After the middle of June the grass in newly turned sod does not make such persistent growth, and can readily be held in check by cultivation.

"There are conditions under which deep breaking is admissible—*e.g.*, on stony land where it is difficult to keep a plough in the ground at a less depth than 3 to 4 inches, or where the breaking is done late in the season—*i.e.*, after the middle of July."

The average settler generally does his first breaking with oxen or horse power ; but there are some wishing to farm on a large scale who engage either gasoline or steam power. With a large power outfit the ploughs are arranged in gangs, each gang consisting of from four to twelve ploughs. The plough bottoms can generally be changed to suit new breaking or stubble. Frequently harrows and drills are attached to the engine and behind the ploughs ; by this plan the whole work of ploughing, harrowing, and seeding is finished in one operation. This plan allows the seed to be placed directly into the moist soil, and has much to recommend it for light land.

So much for prairie land. There are, however, large areas in all three of the Prairie Provinces where the land is covered more or less with small timber or scrub. This requires a very different treatment, of course, in preparing it for cultivation. Where the scrub is small and not too dense the bushes are cut off level with the ground by means of scrub scythes or with power scrub-cutters ; the latter are simply large knives, set at an angle and drawn by horse or engine power. The scrub is then gathered into piles and burned. Where the trees are large the usual plan is to cut these down a foot or two above the ground, leaving the stumps to rot off. Soft wood, such as poplar, decays rapidly, and in a few years can be broken off close to the ground and burned.

A much more expeditious plan has been introduced during the past few years. The trees are cut off close to the ground and at once removed from the land. The soil is then immediately ploughed with what is known as a "jumbo" plough : this is made of very heavy steel, and cuts a furrow 24 in. wide and 6 in. deep. To handle an implement of this size a 30 horse-power engine is required. With such an outfit stumps a foot thick are cut off 6 in. below the ground and turned up to the surface, gathered, and burned. This plan, of course, brings the land into cultivation at once, and frequently a crop can be grown and harvested within a year of forest condition.

The cost of breaking new prairie land will vary greatly according to the nature of the soil and its freedom from scrub, stones, &c. Perhaps \$3, or twelve shillings, per acre is an average price. It is much more expensive to break up scrub or

timber land, and it calls for a great amount of labour in clearing up afterwards. The soil, once cleared, is fully as fertile, however, and retains moisture even better than the prairie land.

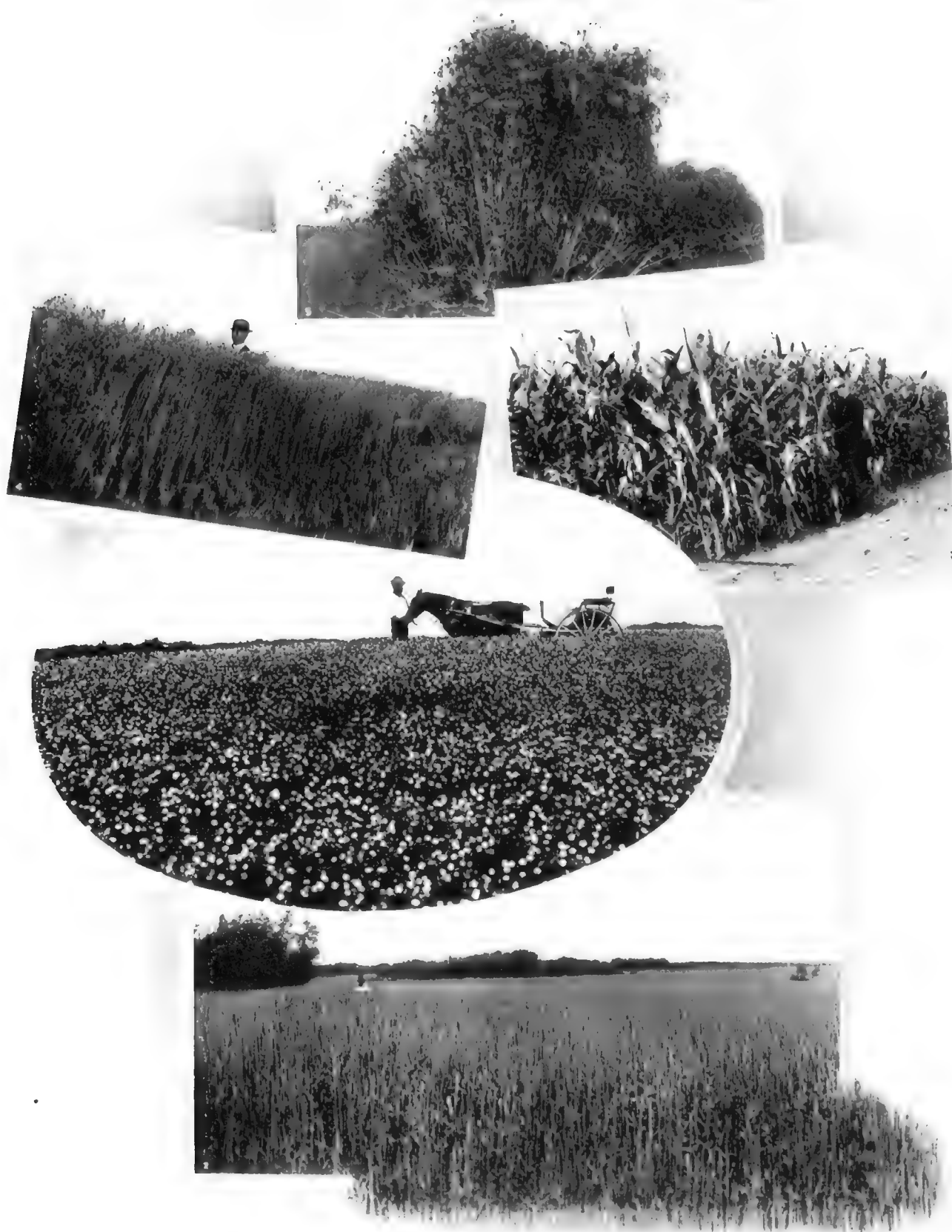
This class of land is largely taken up in small farms of 160 or 320 acres by Icelanders, Belgians, Norwegians, Swedes, and Galicians. Settlers from these countries usually have very little capital to start with, and are satisfied to commence on a small scale and gradually clear up and bring their lands into cultivation.

For the best results prairie land should not be sown with any crop the first season. There is not sufficient time for the sod to rot properly before sowing the grain, and if seeded a short time after the breaking is finished the growing crop keeps the soil so open and dry that very little of the sod will rot during the first season ; it is very difficult to get it to rot afterwards. The direct result of this is first-year returns that are disappointing, while the soil is less productive for several subsequent years.

It is true that a certain percentage of the cereal crop in the Prairie Provinces is grown on new breaking and summer fallow, but the principal crop is produced on stubble land. The proportion of stubble land varies in different districts and seasons.

To prepare for a wheat crop it is the usual practice to plough as much as possible the previous autumn ; the remainder is turned over the following spring. In the Red River Valley the autumn ploughing is generally preferred, for the reason that the stiff clay soil of that region crumples and becomes mellow through the action of the winter's frost if exposed by autumn ploughing. Farther west, where the rainfall is less, spring ploughing usually gives better results, for the reason that the stubble of the previous grain crop gathers the snow, which, melting in the spring, adds moisture to the land. For autumn ploughing the depth varies, but is generally about 5 in. Spring ploughing is usually less than that, but should not be under 4 in. for the best results.

In the provinces west of Manitoba it is found advisable both spring and autumn to put the packer to work immediately after ploughing. The stiff clay loams of the Red River Valley, on the other hand, are left unpacked to enable the frost more thoroughly to do its work of pulverizing the soil.



1. FLAX IN BLOOM.
3. INDIAN MAIZE.

2. WHEAT IN SASKATCHEWAN ALONG THE G.T.P. RAILWAY.
4. A FINE CROP. 5. OATS, 124 BUSHELS TO THE ACRE.

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Occasionally when the Western farmer is pressed for time he follows the unwise practice of disking the land without ploughing. Except in rare cases—described farther on in this article—it is inadvisable to do this, for no disk, however well made, can supplant the plough. The disk is an instrument which should be used only to supplement the plough and not to supplant it. When land is prepared for crop by disking, the perennial weeds are not destroyed, and they quickly take possession of the ground, lessening its productiveness for several years. Disking as a preparation is allowable only when the land has been thoroughly summer-fallowed the previous year and is quite free from perennial weeds of all kinds. It is then sometimes advisable to burn off the stubble and disk, or even to disk without burning off the stubble, then seed. After thoroughly ploughing or disking, the land should be harrowed fine before being sown.

The results obtained on summer-fallowed land are excellent throughout all the Prairie Provinces. This is usually land that has been under cultivation for some years. It is ploughed in late spring or early summer and cultivated throughout the summer. This cultivation not only destroys weeds but, if properly conducted, conserves moisture, aerates the soil, and liberates plant food, besides enabling the farmer to prepare a certain portion of his land during what is a slack period of the year, thus lessening the rush of spring work.

In different parts of the country the manner of preparing fallows varies. Some farmers leave the ploughing until the weeds cover the ground thickly and are in blossom or possibly in seed. With the assistance of a chain fastened to the plough beam, the weeds are turned under and the surface of the soil smoothed off with a harrow. The better class of farmers consider this very objectionable; for, although it undoubtedly saves some labour, it allows the weeds to drain the soil of both moisture and fertility, while frequently some of the earlier ripening weeds go to seed; so that, when these are ploughed under, the land is badly infested with weeds for years afterwards.

The most important system of fallowing is to plough from 5 to 8 in. deep as early in the season as the weed seeds in the soil have germinated. The harrow follows at once, and surface cultivation is done during the

balance of the summer. Most of this surface cultivation can be accomplished with the harrow, the least expensive of all implements to operate. If the ground becomes too compact for the harrow to work properly, the duckfoot cultivator may be used to advantage. In some districts it is found best to plough the fallows a second time, towards the end of the season; but this practice is not at all general, even among the most successful farmers.

Although summer fallows are conceded to be somewhat wasteful of soil fertility, all the best authorities consider that they are absolutely necessary to successful farming in the West. This is particularly true in regard to districts having moderate rainfall.

Fallowed land requires very little if any preparation for spring seeding. One or two turns of the harrow are all that is needed in most instances.

That regular and scientific rotations are seldom followed in the Prairie Provinces is regrettable. The average farmer prefers the line of least resistance and sows the crop that can be readily handled or that is likely to bring him the largest immediate returns. The result is much waste of fertility and a great increase in the loss from noxious weeds. It is not uncommon to find three or four crops of wheat following each other, and when it is no longer possible to produce even a fair crop of wheat the land is sown to oats or barley and wheat again taken up the following year.

Although the Prairie Provinces perhaps do not lend themselves readily to a scientific system of rotation, it is possible, even there, so to rotate the crops that the spread of weeds is checked, the moisture conserved, and the fertility of the land maintained. The practice of such rotation is being adopted gradually by the better class of farmers.

Among a number of successful settlers the following system is in favour. Wheat is grown on fallowed land. The stubble of this crop is ploughed, either in spring or autumn, and another wheat crop taken off. This is succeeded by a crop of barley or oats, seeded at the same time with some perennial grasses or a mixture of grass and clover. The year following this is cut for hay, and perhaps the next year it is devoted to pasture, to be broken up in the summer

of the second year and again seeded with grain, to be summer fallowed again in a year or two. This plan has the advantage of renewing the vegetable fibre with a grass crop and destroying certain weeds at the same time. It also conserves moisture with the fallow and enables enough grain to be grown to maintain sufficient revenue on the farm.

In the early history of the country barnyard manure was considered a nuisance, and many of the early settlers threw it out during the winter months into the ice of the rivers to be carried away in the spring. Although this practice has been abandoned in recent years, there is still a great lack of appreciation for this excellent fertilizer. Many farmers have piles of manure around their buildings which have been accumulating for a number of years simply because they have not thought it worth their while to utilize it on their land. A better class of farmers is now using it, however, assisted in their decision, no doubt, by the introduction of the manure spreader, by which the manure is not only applied with less labour but is more evenly distributed. The agriculture of the West will not be on a sound basis until more animals are kept on the farm and the supply of manure is sufficient to maintain the fertility of the soil.

A system of manuring with a barley crop has proved very successful in some parts of the West. Green manure is drawn and spread on stubble land during the latter part of May. About the first of June this manure is ploughed under, the land immediately packed and harrowed, and sown at once to barley. This grain grows very rapidly in the moist, warm soil at this season of the year, and produces an abundant crop. It also prevents excessive growth of straw on the succeeding crop of wheat, and as the land is ploughed late in the spring the spread of weeds is checked. This barley is generally succeeded by a crop of wheat the following year, and it usually gives good returns.

Closely allied with the subject of cultivation in importance is that of seeding. The principal cereals grown in the Prairie Provinces are wheat, oats, barley; an increasing quantity of flax is also being grown for its seed. According to the Dominion census the proportion of these

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cereals during the year 1912 produced by the three Prairie Provinces was :

Wheat	182,322,000 bus.
Oats	221,857,000 "
Barley	26,671,000 "
Flax	21,534,000 "

In addition to these there are limited areas devoted to rye and peas. Scarcely any corn is grown for seed.

In the early history of the West a great many varieties of each sort of

With the introduction of Red Fife, in the early eighties, the reputation of the West as a producer of first-class wheat was made possible. Red Fife originated from a handful of seed obtained by an Ontario farmer from Scotland about 1840. It was grown in Ontario for a number of years, and when introduced to the West quickly established its reputation as one of the most valuable wheats known in commerce. This is the variety that produces the well-known "No. 1 Hard" wheat. Besides

accomplished marvels in the past 25 years.

Among the earliest of these might be mentioned Preston and Stanley. These are results of crosses between Ladoga and Red Fife, and both are much earlier than the latter. They have grown extensively with gratifying results in the districts subject to early autumn frosts. Unfortunately neither of these sorts is equal in quality to the male parent, Red Fife, and both are likely to be supplanted by a more



1. HARVESTING.



2. THRESHING WITH GASOLENE MOTOR.

grain were grown. Some of these were very inferior, both in yield and quality. Prior to 1875 two varieties were common—one bearded and of good quality but unproductive, the other heavily bearded, of inferior productiveness and shrunken berry, but very early. The latter is still frequently found growing with the standard sorts. Being very early to ripen, it is usually shattered before the Red Fife is ripe, and comes up as a volunteer crop the following year.

The settlers of to-day have abandoned these early sorts and now confine themselves to a few varieties of high quality.

being one of the best milling wheats known, it is very productive and vigorous. It is seldom affected by disease, has a bright, stiff straw, and is perfectly hardy. This variety is in general cultivation throughout the Prairie Provinces.

Perhaps the only objection to Red Fife is the fact that it takes longer to mature than is desirable for the northern portions of the country. For many years efforts have been made to obtain a variety of wheat equal to the Red Fife in every particular but with a shorter ripening period. In this commendable work the Dominion Experimental Farms have

recent and much superior variety—namely, the "Marquis" wheat.

This new wheat is the result of a cross between an East Indian variety named Hard Red Calcutta (female) and Red Fife (male). Marquis promises to be fully equal to the Red Fife in productiveness and quality, at the same time ripening from five to ten days earlier. Since its introduction by Dr. Saunders its production has reached hundreds of thousands of bushels, and it is only ten years since it made its first appearance.

The growing of numerous varieties of oats and barley, as well as wheat, was also



1. REAPING ON THE C.P.R. DEMONSTRATION FARM AT STRATHMORE, ALBERTA.
 2. THRESHING ON THE C.P.R. DEMONSTRATION FARM AT STRATHMORE, ALBERTA. 3. PREPARING THE SOIL.
 4. REAPING.

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a practice of the early days. The numerous tests on the Experimental Farms eliminated many of these kinds, and the number of varieties of oats now grown in the West does not exceed one dozen. The principal varieties are American Banner, Abundance, and Newmarket. All three are white, very productive, and of high milling value.

Owing to its handsome appearance and early ripening qualities the Abundance is perhaps the most popular variety of oats at the present time. Many farmers, though, still maintain that the American Banner has no equal in its usefulness for the West. Black varieties are unpopular. Not only are they unsuitable for milling purposes but they have been found, by actual test, to be less prolific although somewhat lighter in the hull.

While the choicest soil and the best-prepared fields are usually reserved for wheat growing, considerable prominence is nevertheless given to oats; in fact, in some districts more land is devoted to this grain than to wheat. The best grades are used for the manufacture of oatmeal, and the inferior qualities for feeding purposes.

When grown for feed, oats are generally sown on spring-ploughed wheat stubble. As the land under these conditions is more or less weedy and exhausted the yield is not high and the quality not of the best, being mixed more or less with a volunteer crop of wheat. For milling purposes it is customary to sow this grain on fallowed land, new breaking or broken sod; in all of these circumstances there is a large yield of good quality without admixture of other grain.

The third cereal in importance in the West is barley. It is largely used for feed purposes. The demand for malting is very limited, and it is only an occasional farmer who will take sufficient pains to produce a crop which is suitable for this purpose. The two-rowed varieties (Chevalier) are not popular owing to the fact that they require a more abundant rainfall than is generally found. Nearly all the six-rowed kinds give good results; they are able to stand a dry season without their productiveness being seriously affected or their weight lessened. The six-rowed varieties mostly grown are Mensury and Odessa. Both are very vigorous, stiff in straw, and productive. A small quantity of two-rowed Thorpe is grown; it is more satisfactory than the Chevaliers, but not equal to six-rowed kinds.

The barley crop is generally known as a cleanser and for the purpose of utilizing barnyard manure to the best advantage. It usually finishes up the rotation.

The average yield of Odessa and Mensury barley on the Experimental Farms has been:

	<i>Odessa.</i>	<i>Mensury.</i>
Lethbridge, Alberta	39 bushels 28 lb.	34 bushels 43 lb.
Indian Head, Saskatchewan	54 bushels 24 lb.	56 bushels 35 lb.
Brandon, Manitoba	63 bushels 47 lb.	63 bushels 36 lb.

The average farmer's yield is very much below these figures, of course.

The variety of flax grown in the West is almost exclusively confined to that which is known as Common, although small quantities of the Argentine flax may be found in some districts. Flax is usually grown on newly broken prairie sod. The ploughing is from 4 to 6 in. deep. The land is at once packed, then harrowed, and sown at the rate of half a bushel per acre. This plan is not to be recommended, however, as it retards the rotting of the sod.

In the early history of the province nearly all grain was sown by hand or with a broadcast machine. From actual tests made at the different Experimental Farms it was found that that plan entailed a considerable loss to the farmer. The average gain from using a seed drill, as shown by the Brandon tests, was five bushels of wheat per acre and as much as eleven bushels of barley per acre.

With the drill the seed is placed at a uniform and well-regulated depth in close contact with the moist soil. Germination is prompt, quite uniform, and rapid. Of late no broadcasting whatever is done.

Several different types of drills are used. The disk drill—a Manitoba invention, by the way—is now the most in favour, and gives almost universal satisfaction. The quantities of seed used are generally 1½ bushels of wheat per acre, 2 bushels of oats per acre, 2 bushels of barley per acre, and ½ bushel of flax per acre.

The depth of seeding depends largely upon the moisture content of the soil, but the average is 2½ inches for wheat, oats, and barley and 1 inch for flax. The land is usually harrowed twice and sometimes packed after seeding. Should the growing grain prove to be badly infested with annual weeds these are checked, if not completely destroyed, by the use of a spike-tooth harrow, drawn lengthways of the

drill. This destroys very little of the grain, but will remove most of the weeds if the land is treated before the weeds have time to become deeply rooted. With this exception the grain crops of the Western prairies are not cultivated between seeding and harvest: careful farmers, however,

often remove noxious weed plants from the standing crop by hand.

In some seasons the disease of bunt smut is more or less prevalent in wheat. Serious loss from this disease may always be prevented by treating the seed with a preparation composed of one pound of formalin to forty gallons of water. The seed is either immersed or sprinkled with this liquid and sown from six to twelve hours afterwards.

Both oats and barley also suffer from the same disease in another form. It is known as loose smut. The same liquid is found efficacious with these grains also.

With the long days and bright sunny weather of the Prairie Provinces grain matures very rapidly. Harvesting usually commences about the middle of August, and from that time to severe frosts the farmer of the West works from early morning until after sunset, and has even been known to continue harvesting throughout the night when the moon is sufficiently bright for the purpose; in this case, of course, teams and men are changed several times during the twenty-four hours.

In countries further south, such as California, the extensive fields of wheat are harvested by means of large machines, called "headers," which simply remove the head from the grain and leave the straw standing. This plan is not practical in the Canadian West, from the fact that the grain grows so plump that it would shell out long before the header could be used.

The self-binder is the machine universally found in the Canadian West. This machine cuts and binds a 6-ft. strip very rapidly and without any waste whatever. From three to four horses are used on each machine, working abreast. These machines are closely followed by the stookers; but owing to the fact that the harvest season is usually very free from heavy rains, the stooks are not put

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up with much system, and often blow down.

In the early history of the province all grain was first stacked before threshing. This facilitated the threshing and protected the grain from injury by the weather. In recent years the crop area has increased so much more rapidly and the supply of harvest labourers been so scarce that a different system has been very generally adopted. The sheaves are now generally drawn direct from the stook to the threshing outfit. This plan is more expeditious, but frequently results in the grain becoming more or less bleached by the weather before it can be threshed : many of the better-class farmers prefer the old plan of stacking all their grain. This has the additional advantage of enabling the farmer to get the autumn ploughing finished before the threshing season.

The threshing outfits in the West vary greatly in capacity from 300 to 1,000 bushels of wheat per day. Some of them are driven by gasoline, but others are driven by steam, the fuel used being straw. The separators do not thoroughly dress the

wheat. Unlike the British threshing machine, the American outfit does not completely separate the weed seeds from the grain. The mixture is delivered at the railroad elevator, where additional machinery completes the cleaning.

It is the usual practice to avoid the storing of grain on the farm as much as possible. The majority of farmers deliver their cereals at the nearest railroad station elevator either in the autumn or early winter. Storage capacity on the farm is usually limited, and the money is required by the farmer. This plan has the very serious drawback of throwing a lot of grain on the market at the same time, thus lowering the prices.

Considerable autumn ploughing of stubble is done on the average farm if time permits. It is land which requires but little work before being seeded the following spring. If the season is late, however, it will prevent the preparation of much land in the autumn, and the work has to be done in the spring, if at all.

Having once delivered his grain to market the settler devotes the balance of the winter

to the feeding of stock, the cutting and drawing of fuel from the woods, and the preparation of seed grain for the following year. The winter on the Northern and Western farm is also a good season for recreation. Many of the better class of farmers take long journeys to Ontario or British Columbia, where they visit old homes and friends. Some of them visit the Old Country.

The life of the prairie farmer is an exceedingly active one, and his success depends very largely upon his own skill and not on the skill or experience of others. The day's labour is a long one in summer, but it is compensated by a shorter day in the winter, and is intermixed with many pleasures and recreations. There is always the assurance of a competence, and in many cases fortunes are made, even though the new settler started with exceedingly small capital.

Finally, the life is a healthy one, and the farmer has the satisfaction of knowing that every item of improvement to his homestead results in direct benefit to himself and his family.



A WESTERN CANADA FARMER VISITING HIS CROPS.



CANADIAN NORTHERN ELEVATOR: CAPACITY, 7,500,000 BUSHEL.

THE GRAIN TRADE

By E. CORA HIND, COMMERCIAL EDITOR, "MANITOBA FREE PRESS"



IN a country where no preparation is required before the virgin soil is ready for the plough, the trade in products from the soil must necessarily develop much more readily than in countries where the land has to be cleared of a heavy growth of timber before it can be brought under cultivation.

With the coming of the Selkirk settlers in 1812 into the Red River Valley, the growing of grain was systematically undertaken. In those early days, when the plots that were seeded were very small, success was so varying that it was a question for many years whether good milling wheat could be produced. There were some, however, who always had faith, and in spite of the destruction by grasshoppers and frost, the planting of wheat was continued. There are a number of stories as to just when the West began shipping wheat. Begg, in his "Ten Years in Winnipeg," attributes the first shipment to Higgins and Young, and fixes the date at October 27, 1876. On this date 827 bushels of wheat were loaded on a Red River steamer, and were sent up the Red River to St. Paul, Minnesota, thence to Steele Bros., Toronto, and this grain was

reported as being sold for seed at \$2.50 per bushel. The first shipment of wheat from the Canadian West direct to Britain was made on the 17th day of October in the following year. The consigner was Robert Gerrie, and the consignees were Barclay and Brand, of Glasgow, Scotland. This shipment went out also by a Red River steamer, via the United States. Even after this, for a number of years, there were tons of flour imported into the Canadian West, because there was not sufficient wheat produced to meet the rapidly growing demands of the country. After an All-Canadian route to Eastern Canada had been established by water and rail and large quantities of Western wheat were being shipped to mills in Ontario, it was not until 1884 that a shipment was made by an All-Canadian route for export to Great Britain. The first export shipment by an All-Canadian route was made by Thomas Thompson, now head of the firm of Thompson and Sons, of the Winnipeg Grain Exchange, but at that time resident in the city of Brandon. This shipment consisted of 1,000 bushels of No. 1 hard. It was sacked, shipped to Port Arthur by rail, from there by boat to Owen Sound, and by rail and ocean to Glasgow, arriving there in the record time of 21 days from Brandon. In these early years, however, there were

always those who dreamed of great wheat-fields covering the plains over which the buffalo had roamed; experiments in wheat-growing were steadily pushed westward, and even as early as 1880 there was active talk of the Hudson's Bay Railroad which would be needed to carry out the grain that was to be. As early as 1884, and before the Canadian Pacific Railway was completed from Montreal to Winnipeg, that company began the erection of a storage elevator at the head of the Lakes. This building is still standing, is known as Elevator "A," of the Canadian Pacific Railway system, and has a capacity of 1,500,000 bushels. When it was projected there was much scornful comment in the Eastern papers on the impossibility of there ever being enough grain to fill it. The second Riel Rebellion, which broke out early in the spring of 1885, while it possibly curtailed the acreage in wheat that year, nevertheless stimulated interest in the growing of wheat and the grain trade, because of the high prices which had to be paid for American flour to supply the commissariat during that rebellion. Then, too, the rebellion drew attention to the country, and after peace was restored, and the Canadian Pacific Railway was completed from coast to coast, there was a very considerable influx of immigration, and the cultivation of wheat was greatly extended.

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Because it was possible to plough as soon as the settler arrived, almost immediately there was a surplus of grain over and above what the settler could consume. Lumber was costly and hard to obtain, and the settler, having grown the wheat, looked for some one else to take care of it after it had been threshed. It was this rapidly developing need of storage facilities which led to the erection of storage elevators. In those days the railway company was not sure that it was ever going to have freight enough to pay expenses, and it had no desire to increase its expenditure by erecting storage to handle grain crops in the same way as it was compelled to do for ordinary package freight. The company—for at that time there was but one railway—therefore offered free sites at its various stations to men who were willing to erect elevators for the storage and handling of grain, and from this offer what are to-day known as line elevators sprang into existence. The railway company guarantee to these elevators not to accept any grain which was not loaded through their houses, and in those primitive days there was little check on charges for elevating and loading the grain, or on the amount of dockage which the elevator companies might place upon the grain.

The Grain Exchange

As early as 1881 grain commission houses had been established in Winnipeg, but it was not until 1883 that any attempt was made at organizing the trade. On June 9th of that year, George J. Maulson, who was a member of the grain commission firm of Trail and Maulson, at the request of a number of men who were more or less interested in grain and provisions, called a meeting with the intention of organizing an association to protect their mutual interests and to work in harmony with the Board of Trade of the city of Winnipeg. There were 25 men at this meeting, and \$5 each was subscribed to cover preliminary expenses. D. H. McMillan (now Sir Daniel McMillan) was elected president; Kenneth M. McKenzie, vice-president; G. J. Maulson, secretary-treasurer; and a committee of management, composed of Nicholas Bawlf, William Clark, H. Bose, W. H. Brown, A. Douglas, R. R. Keith, and W. A. Hastings. Nothing appears to have been done, however, and after an ineffectual effort to get a quorum of these gentlemen together, when the

grain season of 1883 opened the whole matter was abandoned, and the balance of cash on hand was sent to the general hospital.

The crop of 1884 was a very light one, and the rebellion of 1885 threw the whole of the trade into confusion, so that it was not until November of 1887 that any permanent organization was effected. In 1887 the crop was a very heavy one—the acreage in wheat was 432,134, and the average of yield 25.7 bushels an acre. This gave a crop of 12,351,724, which was very much in excess of local requirements, and the question of a grain exchange was once more revived. There was a meeting called; it was decided to organize under the name of the Winnipeg Grain and Produce Exchange, and the constitution of the defunct exchange was adopted for the time being. The following officers were elected: D. H. McMillan, president; G. F. Galt, vice-president; C. N. Bell, secretary-treasurer; while a board of management was composed of A. Atkinson, J. A. Mitchell, Nicholas Bawlf, Samuel Spink, D. J. McBean, W. A. Hastings, and Kenneth McKenzie. Of these officers and board of management, C. N. Bell, Nicholas Bawlf, and Samuel Spink are still active members of the exchange. The entrance fee was \$15. The development of the exchange really constitutes the major portion of the history of the grain trade in the West.

In those early and formative days there was no trade in futures—it was a cash grain business; but very early—in fact, from the first few months of its existence—the exchange secured the option or future markets from Minneapolis and Chicago, and this formed a basis for establishing the cash price of grain in Winnipeg. Almost simultaneously with the establishing of the first grain commission houses in Winnipeg there was a Grain Inspection Department organized under the Dominion Government, the system being based on that in vogue in Eastern Canada under the General Inspection Act. Captain Clark was first inspector, and competent Western grain men, of whom Samuel Spink was one, selected the samples on which grades were struck. In 1884 David Horn, a young Scotsman who had come to join the staff of Trail and Maulson, was requested by the trade to qualify as an inspector, in order that he might do the work in case of the absence or illness of Captain Clark. In 1885 Captain Clark went

to Great Britain to represent Western Canada at the Colonial Exhibition, and from that time on David Horn practically did all the work. Captain Clark never again returned to reside permanently in Winnipeg, and in 1899, when the position of Chief Grain Inspector of Canada was created, David Horn was requested to accept that position.

The grain inspection system of the Canadian West has been a very important factor in the development of the Western grain trade. From 1887 onward there was a steady increase in the volume of wheat that must be exported, and all of this wheat was sold on the British market on the certificate of inspection given at Winnipeg. In the early years David Horn did all the inspection personally, and it was during these years that Manitoba No. 1 hard and Manitoba No. 1 northern made a world-wide reputation. At the end of 1888, therefore, Winnipeg had a well-established Inspection Department, and a Grain Exchange which received daily the markets from outside points, and which was organized to do an active cash trade. Elevators were springing up all along the lines of railway. Matters went along on this plan for nearly ten years. The volume of grain passing through Winnipeg increased steadily, but in these ten years there was a great and growing discontent in the country on the part of growers of grain. They were compelled to sell their grain to the elevators, accepting their weights and dockage. Finally the discontent of the Western farmers culminated in a petition to Ottawa praying for relief, and this was followed by the appointment of a Royal Commission in 1898 to inquire into the whole question of Western grain handling. This Commission reported, and on its report an Act, known as "The Manitoba Grain Act," was passed which, among other radical things, provided that the railway companies must establish loading platforms, the farmers to have the privilege of loading their grain direct into the cars without going through the elevators, established the office of Warehouse Commissioner, an official whose special duty it was to see elevator companies complied with the Act, and in fact worked out a very complete provision for the handling of grain, though later a number of amendments became necessary. It was found that while permission had been given for farmers to load over the

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platform without going through the elevators, there had been no adequate provision made as to the equitable division of cars between the elevators and the individual farmer. Amendments to the Act were necessary to control car distribution and the length of time a farmer would be allowed in which to load a car.

Permanent Commission

In 1912 an entirely new Act, known as "The Canada Grain Act," was passed, which provided for a commission to have supervision of the entire grain handling trade. This commission is known as the "Canada Grain Commission," of which Dr. Robert Magill is chairman, and has its headquarters at Fort William at the head of lake navigation.

Inspection System

The inspection of Western grain remained under the "General Inspection of Canada" until 1904, when, mainly on representations from the West of the steadily growing importance of the grain trade, the "Grain Inspection Act" was passed, and by this Act the grades of "contract grain," as it is called, were more definitely established. To the uninitiated it may be explained that "contract grain" means that if a purchaser buys 10,000 bushels of No. 1 northern wheat, to be delivered to him in May or June or July, the man who sells him the grain must deliver him that particular grade, or he may deliver No. 2 northern wheat, at a proper modification in the price, or No. 3 in the same way, or, briefly, "contract grain" is grain which may be delivered under certain conditions on any contract which has been previously made.

The Canadian system of grain inspection is undoubtedly the best in the world. In addition to "contract grades" which are fixed absolutely by the Act, grain is sold on a number of "commercial grades." These grades are established by the "Grain Standards Board," which is composed of experts from every branch of the grain trade. For the purpose of establishing these grades, samples of grain are obtained from all over the three Western provinces. These samples are carefully weighed, measured, compared, and tested, and from them sets of standard samples are made up which are placed on file in the various inspection offices and exchanges. By this system an inspector may know what to

inspect to, and a buyer, having seen a sample of, say, Manitoba 5 wheat, knows exactly what to expect if he buys without seeing it a cargo grading No. 5.

When Western grain is moving freely in the fall and from 1,000 to 1,200 cars are arriving daily for inspection at Winnipeg, there is no more interesting spot than the inspection yards, to which the outside public can only be admitted by special permit of the inspection department or the railway.

A train of 50 or 60 cars of wheat will be switched into the yard, and almost before the cars have ceased to move an inspection staff is upon them. A staff consists of four men; they carry nippers, ladder, a bunch of new seals, two long brass tubes, and a yard square of canvas. The man with the seals and nippers is in charge. He glances at the seal of the car to see that it has not been tampered with, then he breaks it, and the outer car door is rolled back, the ladder placed against the inner or grain door, which only reaches part way up, or to what is known as the "grain line," that is, the line to which grain may be loaded without exceeding the standard weight of the car, namely, 1,125 bushels of wheat, 1,050 of oats, 1,300 of barley, and 1,050 of flax.

The men with the tubes run up the ladder and jump into the car. They quickly smooth down the grain and spread their yard of canvas, then, taking the tubes, they "stab" the car to the bottom in ten or twelve places. The tubes are so arranged that, having touched the bottom of the car, the man turns a little handle which opens a series of slides in the tube, allowing the grain to run in from every portion of the depth of the car. Closing the slides, the tube is drawn out and its contents carefully dibbled out in a line by itself on the canvas. All the samples so taken are then mixed together, after being carefully noted by the man with the seals; a 5-lb. bag is filled from this large sample, the car number attached, the ladder is removed, the door rolled back, a fresh seal supplied, a mysterious hieroglyphic marked in chalk, and on to the next car, while the 5-lb. sample is carried to the waiting inspectors, who before long tables facing the keen northern light examine the grain and fix its grade.

A car of grain can be inspected in six minutes, and yet, despite this rush, the mistakes are remarkably few. A survey

board is provided for the man who considers his car has not been properly graded. He makes a complaint to this board, the samples from the inspector's office are turned over to these experts, who, of course, know nothing of what grading has been given to the grain. They name it according to their best judgment, and in nine cases out of ten their ruling confirms the original inspection.

Option Market

While these matters were being worked out, the grain trade of the country was advancing by leaps and bounds, and in 1912 the Winnipeg Grain and Produce Exchange felt that the time had come when a permanent option market should be established in Winnipeg. This was brought into active working order in the year 1903, and Winnipeg quotations were not only momentarily listed on boards in the Winnipeg Exchange, but were transmitted by wire to Minneapolis and Chicago. With the establishment of an option market came the necessary corollary, a clearing house. The operations of this clearing house are one of the best indications of the growth of the grain trade. During 1912 no less than 400,000,000 bushels of grain were cleared through this house, and this is not the heaviest season or the most active market the exchange has known.

Costly Buildings

In spite of ups and downs, bad crops and good, the grain trade of the Canadian West has grown steadily. In 1886 the total amount of grain inspected at Winnipeg was 1,362,600 bushels; in 1912 the amount inspected was 216,230,000 bushels. When the exchange started in 1887, the value of the memberships was \$15, and the number of members ten. To-day there are three hundred members, and the value of the seats has risen to \$4,500. The first meeting of the Grain Exchange was in a single room in a side street. To-day they occupy a building in the centre of the business portion of Winnipeg, which is valued at \$900,000, and which is proving too small for the trade; in fact, a \$600,000 addition will be made during the present year (1913).

Railway Facilities

In order to handle the trade the railway companies have invested millions of dollars in rolling stock. The first shipment of grain from the Canadian West went out in

THE PRAIRIE PROVINCES OF CANADA

sacks on a river steamer. To-day it is loaded into cars which carry over 1,000 bushels each, and trains with 50 and even 60 cars are a common sight on the prairie sections. When the first terminal elevator was built at Fort William, the average length of haul for a grain train to reach the head of lake navigation from the Canadian West was 500 miles, showing that the grain was collected within a radius of 25 or 30 miles of the city of Winnipeg. To-day the average length of haul of a grain train is nearly 800 miles, while cars from Alberta travel 2,500 miles to make the round trip, thus giving a faint indication of the rapid extension of the wheat belt.

The Canadian grain fleet has a capacity of 9,000,000 bushels, and, in addition to this, during the grain-moving season the ports at the head of the Canadian lakes are thronged with enormous freighters from the American side, some of them carrying as much as 400,000 bushels at a single load. There have been erected in the interior of the country 2,225 elevators with a total storage capacity of 67,000,000 bushels, and an estimated value of \$13,350,000. At the head of the lakes terminal storage to the extent of 30,000,000 bushels has been erected at a cost of approximately \$10,500,000.

Money to Move the Crop

Another feature of the trade is the enormous amount of money which must be furnished by the banks in order to facilitate the grain movement in the period between the coming in of the new crop in September and the closing of lake navigation in the early part of December. The principle on which the business is done is for the grain firms to establish a line of credit with the banks in Winnipeg, and these banks send to their branches in the country money to handle the trade. In spite of the privilege of loading cars on their own account, the bulk of the grain trade is still done through the elevators. These houses buy grain by the load and pay cash, so that a man may store his grain in the interior elevators and receive from the man in charge tickets which indicate the number of bushels and the grade of his grain, and on presenting these at the local bank he is able to raise money on his grain before it is actually sold. It is estimated that the amount of ready money provided by the banks for lines of credit to enable elevator

and milling companies to move the crop of 1912 was roughly \$36,000,000. The farmer who has grain to sell may dispose of it in three ways. He may order a car from the railway company and load his grain directly into it and ship it consigned to a commission broker, who will sell it for him and make him the returns; or he may hire a bin in a local elevator and accumulate a car load of it, holding it ready for shipment, but in the meantime raising money on it in store; or he may sell his grain by the load to an elevator and receive the cash at once. But whichever way he selects, it may be assumed that the banks must produce the money for that grain within a month of its shipment in car lots.

Lake Shippers' Clearance Association

A very important factor in the grain trade of the Canadian West is the Lake Shippers' Clearance Association, and this is a body which is unique in the grain trade, and was evolved by a man of the Winnipeg Grain Exchange to meet conditions which have apparently baffled the ingenuity of grain men at other ports. The season of open water in Canada, after the crop begins to move, is comparatively brief. It is of the utmost importance that as large a bulk as possible of the grain should be got to the head of the lakes and shipped by boat to Eastern points before navigation closes. There are two ports at the head of the Canadian lakes, Port Arthur and Fort William. Port Arthur is situated on Thunder Bay, and Fort William on the Kaministiquia River. This gives a water front of approximately 35 miles, and all along this water front are built big terminal elevators. In the past much time was lost by the necessity of moving vessels from one house to another to secure their cargo. For example, the *Willis King*, a vessel with a capacity of 400,000 bushels, being chartered by one firm to take out a load half of which would be No. 1 northern wheat and half No. 2, might have to visit half a dozen elevators to get her cargo, because the man who had chartered her would probably have No. 1 or No. 2 grain in different houses but not sufficient in any one to load this boat. To avoid this delay, a number of men of the Grain Exchange in Winnipeg devised a scheme by putting in a clearing house for documents. By means of this the man who wished to load the *Willis King* would send the boat to elevator

"D" on the Kaministiquia, and though he might have only 100,000 bushels of No. 1 wheat in that house, he would, by surrendering his documents for grain of that grade in other houses, be allowed to load from "D" all the No. 1 required for the cargo. It is estimated that by means of this clearing association the carrying capacity of every boat coming into these harbours has been extended at least one if not two trips in the season. To give some idea of the amount of work performed by this association, it may be stated that during the fall of 1912, between September 16th and December 10th, it loaded 70,000,000 bushels of grain into 625 boats.

In Conclusion

There are 357,000,000 acres of land capable of producing wheat in the Canadian West. As yet, less than 35,000,000 acres of this land has been brought under cultivation. It will be seen, therefore, that while the task of the railway companies in moving, the elevator companies in storing, and the banks in financing the crop at the present time is so onerous, it is a bagatelle to what it will be ten years hence. There are so many ramifications of the trade that it is difficult to deal with it in a single article. The growth of farmers' organizations, known as grain growers' associations, has had a very material effect on the trade. They are constantly seeking legislative protection for their industry. They have established a company of their own through which to do business, and in each of the Western provinces they are dealing at first hand with the question of interior elevator storage. In the older provinces of Manitoba an attempt at Government-owned elevators was made three years ago, but was not a success. These elevators are now leased to the Grain Growers' Company—the Farmers' Business Company, as it is called. The great province of Saskatchewan has, with the aid of its Provincial Government, established a scheme of co-operative elevators, which while they have not been long enough in operation, nor are yet sufficiently numerous to be finally judged, give indications of being a satisfactory solution of the storage problem.

The province of Alberta is at present considering an elevator scheme, either along co-operative lines or with its bonds endorsed by the Provincial Government.

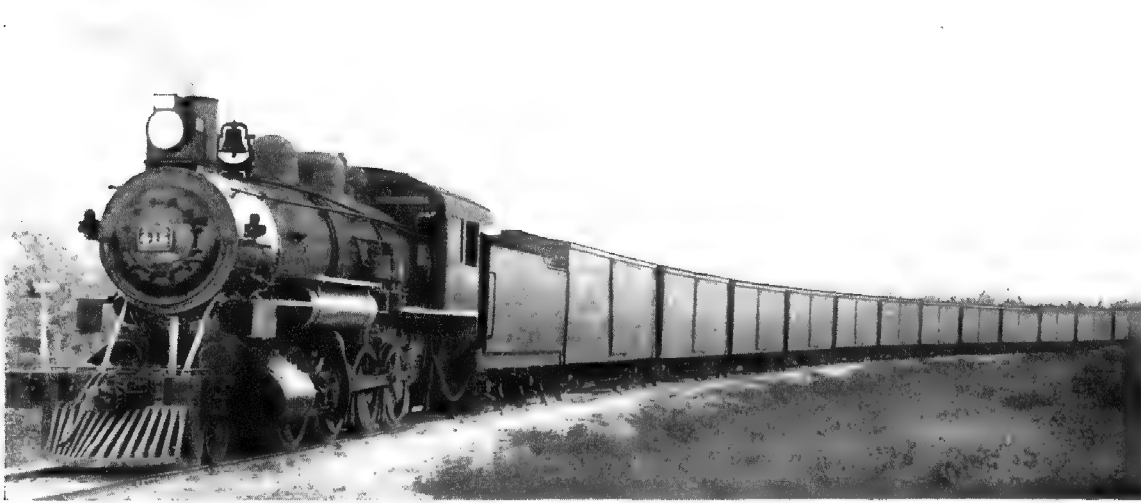
The motor tractor is proving a very

THE GRAIN TRADE

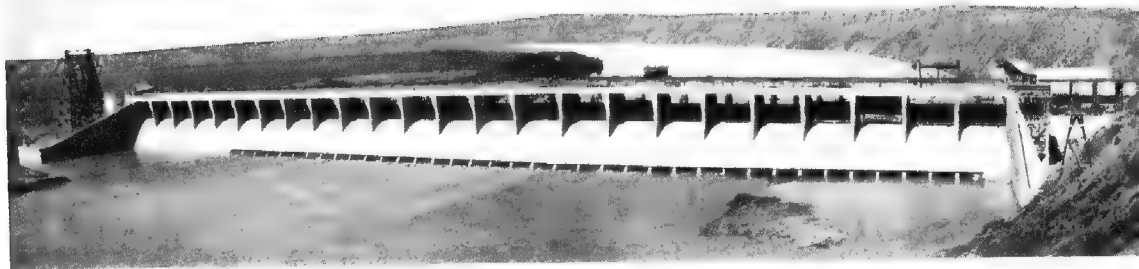
important factor in the development of the grain trade. There are 7,500 of these outfits scattered through the three Prairie Provinces. This means an addition of from a million and a half to two millions at least per annum to the area under cul-

tivation. The West, however, now possesses three railroad systems, and a fourth, the Hudson's Bay Railway, is under construction. If within the next three years the three transcontinental lines can double their tracks to the East, the relief

thus afforded, together with the opening of the Panama Canal and the railway to Hudson's Bay, should make it possible for the annually increasing volume of grain to be readily moved to the coast for export.



PORTION OF CANADIAN NORTHERN WHEAT TRAIN.



HEADWORKS IN COURSE OF CONSTRUCTION, EASTERN SECTION C.P.R. IRRIGATION BLOCK, NEW BASSANO, ALBERTA.

CO-OPERATIVE GRAIN MARKETING

By GEORGE F. CHIPMAN, EDITOR OF THE "GRAIN GROWERS' GUIDE"



AN attempt to deal with the grain trade of Western Canada and the conditions which surround it would be incomplete without a record of the work accomplished by the organized farmers. At the opening of the twentieth century grain marketing conditions in the Prairie Provinces, from the standpoint of the grain growers, were very unsatisfactory. A few companies controlled practically all the initial elevators throughout the country as well as the terminal elevators at Fort William and Port Arthur. There was practically no competition between these companies, and the profits taken by the middlemen were such as to reduce the profits of the farmers to the lowest possible point. For many years prior to this time the farmers had no option in shipping their grain but to put it through on the country elevators, as the Canadian Pacific Railway, then the only railway in the country, refused to handle the grain other than through the elevators. This naturally created a monopoly to the detriment of the farmer.

The first practical attempt to place the grain trade upon a firm basis was made through Federal legislation in 1900. This attempt has since developed into regulations covering the entire grain trade. Even with this legislation in force, however, there was a steadily growing unrest among

the producers of the grain, who felt they were not receiving a reasonable share of the value of their products. This unrest manifested itself in the organization of the Saskatchewan Grain Growers' Association in the winter of 1900-1, which was promptly followed by similar organizations in Manitoba and Alberta. These associations spread throughout the three Prairie Provinces with great rapidity, and in the course of four or five years they had a very large membership.

The campaign carried on by the organized farmers in early years resulted in the introduction of many important improvements into legislation regulating the grain trade. By the year 1905, however, the general feeling among the grain growers was that it would be impossible to secure to the farmer his just due until the farmers organized themselves and actively competed with the existing companies. The result was the organization of the Grain Growers' Grain Company, which began business in the season of 1906 in a very humble way. Shares in this company were fixed at \$25 each, no shareholder being allowed to hold more than four shares. No one except a *bona fide* farmer was allowed to purchase stock, and at the annual meetings no shareholder was given more than one vote, regardless of the number of shares he held. The farmers began immediately to patronize their own company, and at the end of the first year's business, at the annual meeting held on

June 30, 1907, it was found that the farmers' company had marketed 2,500,000 bushels of grain. This was regarded as highly satisfactory.

It must not be thought that there was no opposition to the farmers entering the grain trade with their own company. They received vigorous and very serious opposition from the outset. The big companies which had controlled the grain trade for many years resented very keenly the intrusion of the farmers' company. It was announced as the intention of the Grain Growers' Grain Company to distribute its profits upon the Rochdale Co-operative system. At that time no company could make a success in the grain trade without holding a membership in the Winnipeg Grain Exchange. This membership had been allowed the Grain Growers' Grain Company at the opening of their business, because it was not thought that the farmers' company would be a formidable factor in the grain trade. When, however, it was seen that they were handling a great volume of grain, the Grain Exchange, seizing as a pretext the proposal of the Grain Growers' Grain Company to distribute its profits co-operatively, suspended the farmers' company from the trading privileges of the Exchange. Thus it appeared that the farmers' attempt at emancipation had come to an untimely end.

No grain company can continue in business without good credit, and this the banks at this time denied to the new

CO-OPERATIVE GRAIN MARKETING

organization. But the little band of farmers who started the organization of the Grain Growers' Grain Company were not so easily driven from the field. The Manitoba Grain Growers' Association, which at this time had branches in every part of the province, and a membership of 5,000 or 6,000 farmers, took the matter before the Local Government, with the result that the Grain Exchange was compelled to reinstate the Grain Growers' Grain Company to its former trading privileges. The banking question was solved by an arrangement with the Home Bank of Canada, by which the Grain Growers' Grain Company purchased a large block of stock in that bank, and became the selling agents of its stock to the grain growers throughout the West. In return the Home Bank made arrangements to finance the business of the farmers' company, which it has since done. At the end of the second year's business it was found that the Grain Growers' Grain Company had handled 5,000,000 bushels of grain, which in the third year was increased to 10,000,000 bushels, in the fourth year to 16,000,000 bushels, in the fifth year to 19,000,000 bushels, and last year to 28,000,000 bushels. At the present time there are over 13,000 farmer shareholders in the company, which has a paid-up capital stock of over \$600,000 and a reserve fund of \$200,000.

In the summer of 1908, in order to assist the farmers' associations in the three Prairie Provinces in the work which they were carrying on for the improvement of conditions generally, the Grain Growers' Grain Company provided the financial support necessary for the establishment of a journal to be owned entirely by the farmers and intended to assist them in the carrying out of their work. The result was that the *Grain Growers' Guide* was established as a monthly journal. It rapidly grew in favour and a year later was published as a weekly.

The Grain Growers' Grain Company was the beginning of the commercial side of the farmers' organization work. This company did not own any elevators either terminal or country, but its work was confined to the selling of farmers' grain upon a commission of 1 cent per bushel, which was the regular commission supposed to be charged by all other grain companies. Farmers who were not satisfied at the treatment they received at the hands of the big private companies could ship their

grain to their own company and receive back the full market price less 1 cent per bushel commission. Even this apparently small commission, however, produced large profits and rapidly gave the Grain Growers' Grain Company a strong financial standing. The presence in the field of the farmers' company compelled the big private grain companies to pay the farmer more nearly the market price for his grain and also to give better grades and less dockage for dirt and seeds. The farmers' company also went into the export business, shipping the grain from its shareholders to the English markets. This competition also was successful in reducing the difference hitherto existing between the prices paid in Liverpool and those paid by the companies which in previous years had the monopoly of the grain business.

The company continued its commercial work with the active support of the associations in the three Prairie Provinces, while the associations themselves continued a vigorous educational propaganda with the object of securing a better legislative control of the grain trade. Year by year improvements have been made in this direction. In the earlier days of the Grain Growers' Association it was generally felt that the only satisfactory solution of the difficulties that then beset the grain trade lay in the ownership of the country elevators by the Provincial Governments and in the ownership and operation of the terminal elevators by the Federal Government. This campaign was carried on with so much vigour that in December, 1909, the Manitoba Government announced that it was prepared to meet the wishes of the Grain Growers' Association, and would provide, either by purchase or erection, Government-owned elevators in that province. The necessary legislation was enacted at the winter session of 1910, an Elevator Commission of three members was appointed, and in all 176 elevators were secured, all but ten being purchased from existing elevator companies. The Government Elevator Commission took charge of the operation of these houses during the two grain seasons of 1910 and 1911. The result was that there was a large deficit in the operation and the Government, after two years' experience, declined to continue operating the elevators further. The Government maintained that the deficit was due to the farmers not patronizing the Government elevators, while the grain growers themselves maintained that the

loss was due to political manipulation. At any rate, in the legislative session of 1912 the Premier declared that the Government would not operate the elevators any longer and had decided to lease them. An arrangement was finally concluded between the Government and the Grain Growers' Grain Company by which the farmers' company took over all the Government elevators for a term of five years on a rental basis of 6 per cent. on the capital investment. It is too soon to say whether this venture on the part of the farmers' company will be successful, as the first year's business has not yet been concluded, but the prospects are that the operation of these elevators in the hands of the farmers themselves will be profitable. The failure of the Government-owned elevators in Manitoba has practically ended the agitation for Government-owned elevators in the Prairie Provinces, but the farmers still demand that the terminal elevators shall be operated by the Federal Government. In fact, the Federal Government is now engaged in the erection of a large terminal elevator at Fort William and legislation has been provided by which the other terminal elevators may be expropriated and operated by the Government whenever it is deemed advisable.

In Saskatchewan the Government met the demand of the grain growers for publicly owned elevators by the appointment of a Commission to investigate the whole matter. The Commission was appointed on February 28, 1910, and consisted of a member of the Legislature, the Secretary of the Saskatchewan Grain Growers' Association, and a Professor of Political Economy. Their report was presented to the Government on October 31st of the same year. The Commission recommended that a farmers' elevator company should be organized in Saskatchewan with a local organization for each elevator, but all under a central management; the Government to advance 85 per cent. of the cost of the elevators. The recommendation of the Commission was accepted by the Government and incorporated into legislation. The Legislature was in session in February, 1911, when the Saskatchewan Grain Growers' Association held its annual convention. The Bill was brought before the Grain Growers' Convention and subjected to all-day debate, receiving almost unanimous endorsement. This Bill became law on March 14, 1911, and the farmers' elevator company was launched under the

THE PRAIRIE PROVINCES OF CANADA

name of the Saskatchewan Co-operative Elevator Company. To-day that company has elevators at 139 different points in the province of Saskatchewan. It has passed one year most successfully, and is now handling a very large volume of grain to the satisfaction of its 10,000 farmer shareholders. Year by year this farmers' company in Saskatchewan will increase its number of elevators until the farmers of the province will in the near future be marketing their grain through their own agency. While the grain growers of Manitoba and Saskatchewan have been working out a solution to the elevator problem in their own provinces, nothing of the same nature has as yet been done in Alberta, which, though not so large a grain-producing province as the others, is rapidly increasing its production. At the time of writing the united farmers of Alberta are negotiating with the Government of the province for the inauguration of the farmers' elevator system. Nothing of a detailed nature has been decided upon, but there appears to be a general disposition on the part of the farmers' organization and the Government to develop a system of elevators which will work in close conjunction with the Grain Growers' Grain Company, which company, it may be stated, has a large number of shareholders in the three provinces. Each province receives full representation upon the board of directors. The Government

of Alberta has agreed to enact legislation for the development of a farmers' elevator company, and, no doubt, this problem will soon find a solution in the most westerly of the Prairie Provinces.

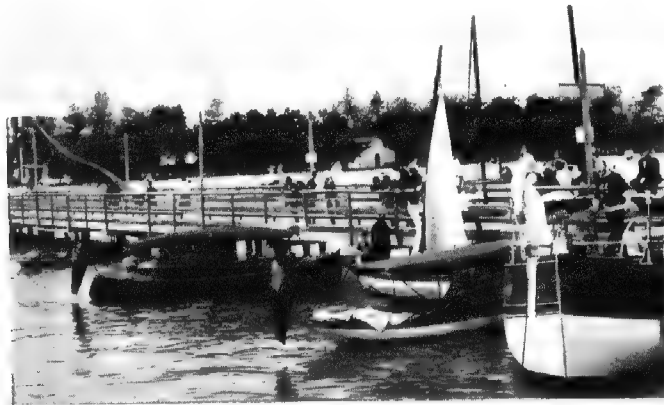
It should perhaps have been pointed out earlier in this article that many attempts were made by local groups of farmers to solve the elevator problem by the erection of their own elevators. But without having any central organization through which to work, a large number of these elevators were driven to the wall, and have passed into the hands of private elevator companies, or become a part of the farmers' provincial systems.

In addition to the co-operative development in grain marketing by the farmers of the Prairie Provinces, the co-operative spirit has spread very generally throughout the country, and the farmers in local communities to-day are co-operating in the purchase of their flour, feed, binder-twine, formaldehyde, apples, and various other necessities. It is the aim of the organized farmers to have a warehouse in conjunction with their co-operative elevators in each local community, where they will have their own agency for the handling of practically all the staple commodities used on the farm.

Apart from the material work accomplished by the organized farmers, the associations are carrying on a vigorous educational campaign. The total number

of farmers now identified with the three associations is 50,000, comprising over 1,000 local community associations. Each member pays \$1 per year to his local association; one-half of this sum is forwarded to the central association office for the conduct of the general business of the association. Each province has a well-organized central office in charge of a permanent secretary, who devotes all his attention to the work of the organized farmers. The various questions which are dealt with at the local association meetings and also at the annual convention are those having vital relation to every phase of rural life of the West. Particular attention is paid to such important national questions as the tariff, public ownership of public utilities, direct legislation through the Initiative, Referendum and Recall, naval armament, taxation of land values, and practically every question affecting the welfare of the people.

The three provincial farmers' associations are affiliated to a central organization known as the Canadian Council of Agriculture, which also embraces the organized farmers of Ontario. This is by far the largest and most powerful farmers' organization that has yet appeared in Canada. It has already secured a very considerable amount of beneficial legislation in all three Prairie Provinces and also at Ottawa. To-day the organization is growing more rapidly than ever in the past.



THE PIER, WINNIPEG BEACH.



ENGLISH IMMIGRANTS.

IMMIGRATION



HE legislation which governs immigration to Canada has designedly been framed both to protect the country from undesirable characters and to secure for it the

entry, at a minimum of inconvenience, of those foreigners who are likely to become good citizens. To this end the powers of the Immigration Department, though wide in their scope, are considerably administered.

It should be said in the first place that the immigration laws are administered by the Minister of the Interior through the agency, in the larger ports, of Boards of Inquiry, consisting of three or more officers and stationed at the various ports of entry. Where no immigration officer is available for duty the chief Customs official, or any subordinate Customs officer designated by him, becomes an ex-officio immigration officer. Immigration officers are instructed to prohibit the landing of :

(a) Persons of feeble mind, epileptics, and persons who have been insane within five years previous.

(b) Persons afflicted with contagious or loathsome diseases.

(c) Immigrants who are dumb, blind, or otherwise physically defective, ex-

cept in cases in which sufficient money or some trade or profession obviates the danger of such an immigrant becoming a public charge.

(d) Criminals, professional beggars, vagrants, and other undesirables.

(e) Immigrants to whom money has been given or loaned by any charitable organization for the purpose of enabling them to qualify for landing, or whose passage has been paid wholly or in part by any charitable organization or out of public moneys, except when such an immigrant is able to produce a written permit from the superintendent or assistant-superintendent of immigration for Canada.

The Board of Inquiry, which has the power to determine whether or no immigrants shall be allowed to enter Canada, is composed of three or more officers of whom the immigration officer in charge is one. Doubtful cases are heard and decided upon by the Board in camera.

From an order for deportation issued by the Board based upon a certificate of the examining medical officer there is no appeal. Where deportation is ordered for other than medical reasons appeal from the decision of the Board can be made to the Minister of the Interior.

Immigrants, male or female, entering Canada between the first day of March

and the last day of October are required to have in their possession the amount of at least \$25 (£5 4s. 2d.) over and above whatever sum is required by them to reach their destination.

Heads of a family are required between these dates to have in their possession, in addition to the sums mentioned, a further amount equivalent to \$25 for each member of the family accompanying them over eighteen years of age, and \$12.50 for each member of the family accompanying them of less than eighteen but more than five years. They are further required to possess tickets, or their value, for all members of the family to their destination.

In the case of immigrants entering Canada between the first day of November and the last day of February the amounts required are exactly double those mentioned above. But in this as in other immigration regulations, it is the spirit rather than the letter of the law which guides the decisions of the officials. From the operation of the foregoing regulations the following cases are exempt :

(a) Male immigrants going to assured employment at farm work and possessed of means to reach their destinations.

(b) Female immigrants going to assured employment and possessed of means to reach their destination.

THE PRAIRIE PROVINCES OF CANADA

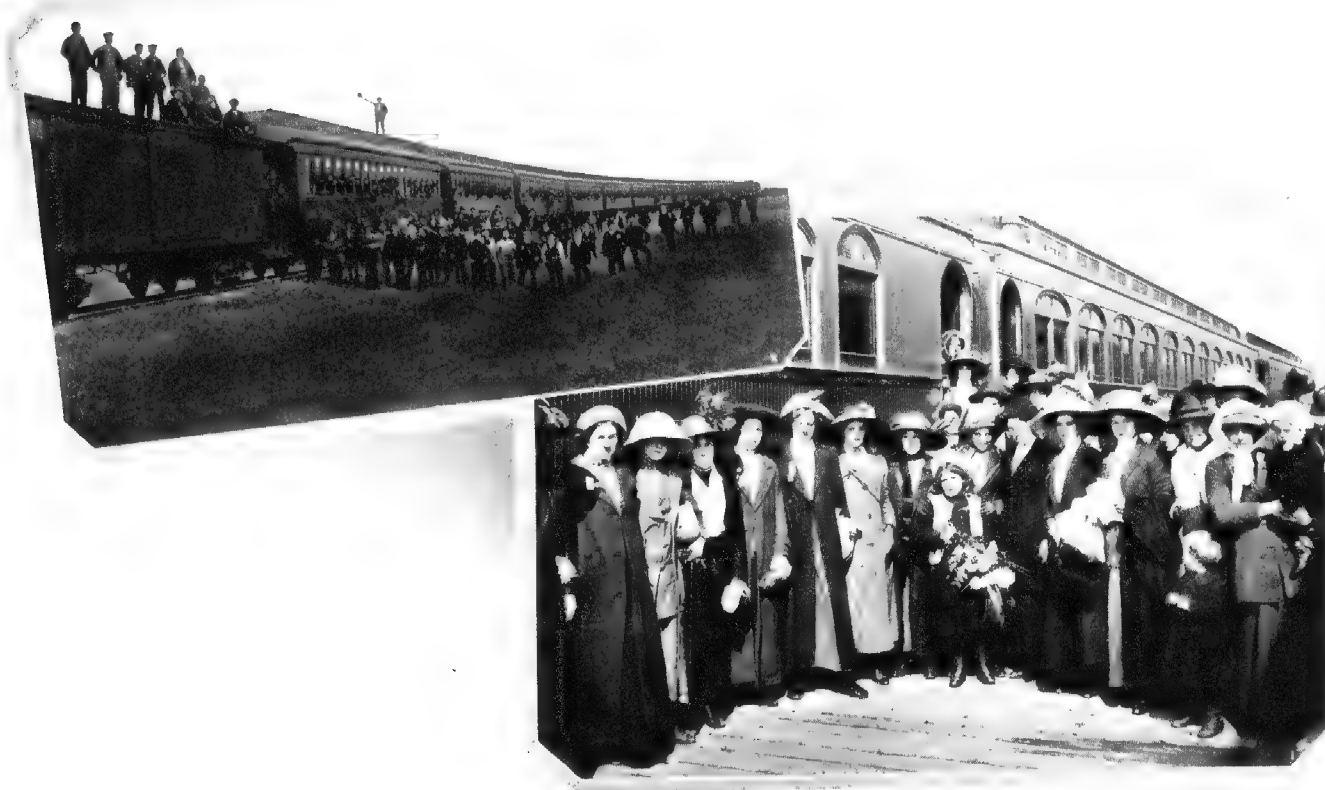
(c) Male or female immigrants going to reside with relatives, of one of the following descriptions, able and willing to support them :

- (1) Wife going to husband.
- (2) Child going to parent.
- (3) Brother or sister going to brother.
- (4) Minor going to married or independent sister.
- (5) Parent going to son or daughter.

used above is defined by the Chinese Immigration Act as not including "any merchant's clerk or other employee, mechanic, huckster, pedler, or person engaged in taking, drying or otherwise preserving fish for home consumption or exportation." Japanese and other immigrants of Asiatic origin are permitted to enter Canada when in possession of \$200. An agreement entered into with the Japanese Government affects to regulate the number of immigrants of that nation-

These posts are to be found in Manitoba at Bannerman, Emerson, Gretna, and Sprague ; in Saskatchewan at North Portal, and in Alberta at Coutts.

Turning from the regulations which govern the admission of immigrants to the efforts which the provinces are making to attract them, we may notice that as yet the Prairie Provinces have not embarked upon that elaborate propaganda in Great Britain which has been so marked a feature of the activities both of the Dominion



1. IMMIGRANTS TRAVELLING VIA GRAND TRUNK RAILWAY SYSTEM.

2. NEW SETTLERS TO THE WESTERN PROVINCES ON C.P.R. TRAIN.

It is not always understood that tourists, and others who do not come under the heading of immigrants, on deciding to reside permanently in the Dominion are required to notify their change of plans to the nearest immigration officer.

Chinese immigrants are subject to a head-tax of \$500 payable at the port or place at which they enter Canada. From this tax diplomatic representatives, children born in Canada, merchants, their wives and minor children, tourists, and men of science are excepted. The term "merchant" as

ality who may enter the Dominion in any particular year. It is doubtful, however, if the limit thus imposed is severely insisted upon. During the fiscal year ending March 31, 1913, the number of Japanese subjects entering the Dominion was officially returned as 724. During the same period Chinese immigrants totalled 7,445 and Hindus 5.

Railway and other transportation companies are required to provide at specified frontier posts suitable buildings for the examination and detention of passengers.

authorities and of the great railway companies. Representatives of the three Governments are, however, stationed in London, and a large amount of useful work is accomplished.

It will probably come as news to many English readers that the various provinces of the Dominion carry on an active immigration policy within Canada itself. Within the capital of Manitoba may be found an elaborately fitted bureau designed expressly to advocate the many advantages possessed by Alberta. Similarly in Toronto an office

IMMIGRATION

is conducted primarily to attract to Alberta the younger sons of Ontario farmers, land in that more densely populated province proving frequently beyond their means. It is, however, hard to determine the limits of an immigration policy, and there would seem to be ample justification for the claim, made recently by an official of the Saskatchewan Government, that the provision of good roads which will link the farmer with his market and reduce the cost of transport is the most practical of all policies designed to attract the settler.

During the fiscal year 1912-13 (commencing April 1st and terminating March 31st), 402,432 immigrants entered Canada. Of this number 150,542 came from Great Britain, 139,009 from the United States, and 112,881 from other countries. Amongst the British and other immigrants landing at ocean ports and the immigrants crossing the International boundary from the United States the following trades were thus represented in the year 1912-13 :

	British and Foreign.	United States.
Farmers and farm labourers ...	69,462	45,111
General labourers ...	80,089	42,409
Mechanics ...	48,379	23,864
Clerks, traders, &c. ...	18,349	5,492
Miners ...	5,025	2,014
Domestics ...	20,910	2,962

The exodus from the United States has

in the opinion of Americans assumed serious proportions. The growth in immigration from beyond the International boundary can, however, best be shown by a comparison of figures dealing with the past six years.

Fiscal year 1907-08 ...	58,312
" " 1908-09 ...	59,832
" " 1909-10 ...	103,798
" " 1910-11 ...	121,451
" " 1911-12 ...	133,710
" " 1912-13 ...	139,009

The standing of the Prairie Provinces as regards the total immigration in any particular year is best shown by the following table :

	Manitoba.	Saskatchewan.	Alberta.
Fiscal year 1900-01 ...	11,254		14,160
" " 1901-02 ...	17,422		22,199
" " 1902-03 ...	39,535		43,898
" " 1903-04 ...	34,911		40,397
" " 1904-05 ...	35,387		39,289
" " 1905-06 ...	35,648	28,728	26,177
Fiscal period (9 months) 1906-07 ...	20,273	15,397	17,559
Fiscal year 1907-08 ...	39,789	30,590	31,477
" " 1908-09 ...	19,702	22,146	27,051
" " 1909-10 ...	21,049	20,218	42,509
" " 1910-11 ...	34,653	40,763	44,782
" " 1911-12 ...	43,477	46,158	45,957
" " 1912-13 ...	43,813	45,147	48,073
	396,913	702,185	



RUSSIAN AND POLISH IMMIGRANTS.



HUDSON'S BAY RAILWAY BRIDGE OVER THE SASKATCHEWAN RIVER, LE PAS, MANITOBA.

NORTHERN MANITOBA

By HOPKINS MOORHOUSE



COMING as it did at the end of a long political fight, extending over many years, the extension of the boundaries of Manitoba in 1912 was naturally gratifying to Manitobans. But it is doubtful if the majority of the citizens of the province as yet realize the potential wealth that has been acquired in the newly added territory to the north. New Manitoba's area is about 180,000 square miles.

The new territory varies greatly. An immense clay belt, 10,000 square miles in area, sweeps across the province north of Lake Winnipeg. In other places the soil is light, sandy loam. There are evidences of excellent mineral country and an unlimited supply of spruce, poplar, jack pine, tamarac, and pulpwood. A great stretch of fairly level country extends northward, sloping towards the sea at the rate of about 2 ft. in a mile.

The value of the rivers of Northern Manitoba is almost beyond computation. Speaking in this connection, Dr. Orok, M.P.P. for Le Pas, says: "We have power enough up there, if utilized, to turn every wheel in this province from the farmer's grindstones to the street-car systems and the manufacturing plants of our great cities.

I will go a step farther and say that we can have our homes heated by electricity carried to us from the cataracts of the Nelson River. This power means a great deal to us. With our lumbering, mining, and pulpwood possibilities and 6,000,000 available horse-power we can be the greatest manufacturing province of the Dominion of Canada. With our products of mine and forest and field and factory hundreds of miles nearer to the British market than those of any other province (the Maritime provinces alone excepted), all we need to pull to the front and stay there is a continuance of the energy displayed by our public and our public men. Our own natural resources will do the rest." A Manitoba Government Commission is now at work gathering practical data in regard to these water powers with a view to their development.

Minerals in paying quantities exist on both sides of the Hudson's Bay Railway and in close proximity to it. A rush for precious metals, similar to that which took place in the Porcupine district of Northern Ontario, may be expected in New Manitoba in the near future. Ore samples have been brought in already, from within 180 miles of Le Pas, assaying very close to \$11 per ton of copper and gold and \$10 per ton of nickel. Gold proving out \$5 to \$6 per ton has been constantly found, a satisfactory

return compared with exploited British Columbia mines at Granby and Phoenix producing \$7 to \$2 a ton respectively.

Good iron ore has already been found at Herb Lake and marble of high quality at Elbow Lake, within 30 miles of the Hudson's Bay Railway. The marble quarries are considered very valuable, the marble being present in solid bodies and of much better quality than imported Italian marble. There seems little reason to doubt that the discovery of another Cobalt is quite possible; Sudbury, it will be remembered, was discovered when a cutting was made for the Canadian Pacific Railway. There exists at the north-eastern end of Lake Winnipeg a mineralized area extending for many miles northward and eastward that may develop one of the greatest mining camps in Canada.

Clays, shales, sands and gravels, marls and coals, limestones, &c., are found in valuable quantities in New Manitoba. The limestones are sufficiently pure for the manufacture of Portland cement, and the necessary clay or shale may be found conveniently near to these outcroppings. The calcareous Niobrara shales provide a suitable material for a natural cement. The limestones are valuable not only as building stone but as lime and rubble producers. They will, no doubt, be used as well as available sand and gravel ridges to assist

NORTHERN MANITOBA

the "good roads" movement. The clay resources will lead, of course, to brick and tile manufactures.

A dispatch from Ottawa, under date of June 13, 1913, stated that the Government had decided to make a thorough investigation into the fisheries of Hudson's Bay from a commercial standpoint. A fishing expert went north in July on the steamer *Minto*, bound for Port Nelson with harbour supplies, and he will return with valuable data regarding the fisheries. Hudson's Bay is said to be swarming with fish, and the writer knows that the lakes and rivers between the Bay and civilization are so full of fish that a canoe can be filled with them in a very short time. It has been computed that there are 3,000 lakes of various sizes in this district, though the majority of them are not as yet included in the maps. The fish supply of New Manitoba, not including Hudson's Bay, is large enough to meet the fish demands of the world and represent a colossal money value. The Federal Government at Ottawa believes that with the completion of the Hudson's Bay Railway a great fishing industry will develop in the Bay, and the belief is doubtless well founded. Not only should there be a big trade with the Prairie Provinces to the south but a fishing trade with British markets will no doubt develop.

Whitefish and trout of maximum size and quality, salmon, goldeyes, and other marketable varieties abound, while the Hudson's Bay cod is destined to become famous. Canning factories will undoubtedly spring up rapidly when marketing facilities are established.

In close connection with the fishing industry will be the oil industry. If the waters of New Manitoba teem with fish the Hudson's Bay and Hudson's Straits provide a home for countless numbers of very valuable oil-bearing animals—porpoise, walrus, seal, whale, and narwhal. Blubber, oil, skins, and ivory will alone provide an export trade of millions of dollars annually.

New Manitoba contains one old-established industry that goes back to the days of Champlain and French Canada—the fur trade. New Manitoba, formerly the district of Keewatin, North-West Territory, was the heart of that vast wilderness so long the scene of the operations of the Hudson's Bay Company. The Company's "posts" have flown their red flags in this district during many years. To the Indians and the

rough men of the silent places the Hudson's Bay posts were meccas of civilization, supply houses at which they could trade the skins of wild animals for such luxuries as tea, flour, molasses, salt, and pork, and such desirable articles as rifles, powder and shot, traps, and warm blankets.

Many fur-trading firms refuse to give definite figures in regard to the amount of business they do annually, and for that reason it is difficult to obtain data that will apply to the whole territory, but it may safely be said that the business done annually is enormous. There are ten or more fur-traders located at Le Pas, which rivals Prince Albert and Edmonton as the most important fur market in Canada. During October, November, and December last year one Le Pas trader handled \$10,000 worth of furs; this was but one man out of many, and the greatest fur sales or exchanges take place in June, when the trappers from the Far North come down to the trading stations by canoe.

In the old days the price of a gun was measured by the number of skins that would pack tightly around it when it stood erect on its butt; when the pile of skins reached the level of the muzzle the trapper took the gun and the trader kept the furs. Those days are now past, of course; dealing is done nowadays in cash or goods according to the known market value of the skins.

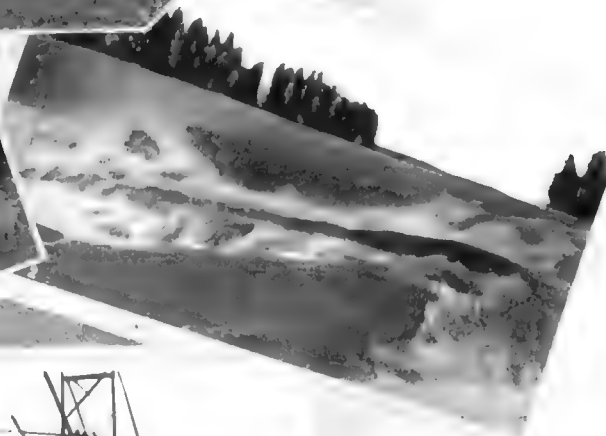
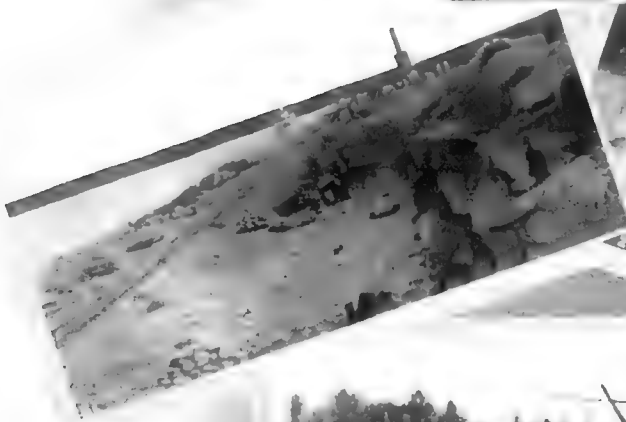
Le Pas is recognized as the local market in Central Canada for musk-rat fur. During the past season about 500,000 musk-rat skins were bought at Le Pas, the value being almost \$200,000.

In regard to the agricultural possibilities of New Manitoba nothing very definite is yet known, except that they undoubtedly exist. That there are large areas of arable land is the report of prospectors and trappers who have travelled extensively over the country. Much of this is wooded, but once cleared would prove excellent farming land. Other tracts only need draining to convert them into the finest of farms. Less than 100 miles north of Le Pas, and within 20 miles of the Hudson's Bay Railway, there is a tract of land estimated to be fit for agriculture, 6,400,000 acres in extent, that is, sufficient to give 20,000 farmers 320 acres each. Such tracts as these are suitable to the cultivation of all manner of vegetables, wheat, barley, and small fruits, while in some places the conditions are ideal for stock raising.

It is a well-known fact that the further north wheat can be grown the higher is its quality for milling purposes. At each of the scattered Hudson's Bay Company posts in New Manitoba, the factors and others living in the little settlements have cultivated plots in the neighbourhood for the sake of practical returns. From the results thus recorded and from the success attained by Indians here and there, a portion of New Manitoba must be credited with rich soil properties that lend themselves to practical farming, while the vegetables grown are among the world's finest in size, succulence, and flavour. Owing to the number of the hours of sunshine in the summer the growth is exceedingly rapid in the northern country. At some of the Hudson's Bay posts, as far north as 56 degrees, wheat has been successfully grown and ripened without a touch of frost, and this has been done in some cases for seven years in succession. This is a matter of record and can be readily substantiated, and would seem to settle any question of New Manitoba being too far north for the production of wheat. Proper drainage is what is chiefly lacking to open up vast tracts of land for agricultural purposes as the country stands now in its primitive state. With the abundance of wood, excellent water, and rich wild hay and pasturage, live stock raising will prove successful and mixed farming will be a profitable undertaking.

Before the railway survey reports were received, there was much speculation about the timber value of New Manitoba. It is now known that billions of feet of spruce and tamarac are available, while pulpwood is unlimited in quantity and thousands of acres are so densely spread with it as to be almost impenetrable. The maps prepared by the Federal Government, while indicating extensive forests, show comparatively small areas, for the reason that the data are confined merely to exploration along the rivers and lakes and railway surveys to Fort Churchill and Port Nelson. Even the limits shown, however, are sufficient to keep occupied many saw-mills and wood-pulp factories night and day for years to come.

At Le Pas there is in operation a lumber company employing 500 men. The company employed the same number of men last winter cutting logs on the Carrot River. The management state that they alone have enough timber to last them 50 years,



1. STURGEON, NELSON RIVER.

2. WESTERN CHANNEL, WHITE MUD FALLS, NELSON RIVER.

3. TRACK LAYING, HUDSON'S BAY RAILWAY.

4. FINGERS MILL, LE PAS, MANITOBA.

5. A PORTION OF FISCHER AVENUE.

6. LIMESTONE QUARRY.

NORTHERN MANITOBA

even though their plant were increased to four times its present capacity.

Saskatchewan Spruce, called after the river on which it was first found, is the main timber around Le Pas. It varies in size from firewood to logs of 3-ft. diameter.

The town of Le Pas, which has been several times mentioned, is the first town in New Manitoba to receive incorporation. Its present population is in the neighbourhood of 1,500, and it is the most northerly terminus of the Canadian Northern Railway, which here connects with the Hudson's Bay Railway, now building northward out of Le Pas. It is situated at the junction of three rivers—the Saskatchewan, the Carrot, and the Pasquia—and lies between the northern extremity of the wheat plains and the southern beginning of Manitoba's new territory. Besides being an important timber depôt

and fur-trading point, Le Pas is an important fish-shipping station.

At Grand Rapids, 90 miles from Le Pas, are waterfalls, with 200,000 available horsepower. The town is on the border of a 6,400,000-acre clay belt suitable for farming. It is almost certainly a city of the future.

The great traffic anticipated over the new Hudson's Bay Railway is indicated by the fact that the railroad bridge at Le Pas is one of the largest in Western Canada. The town has one of the most up-to-date saw-mills on the continent, is the headquarters of a river navigation company, and has been an important Hudson's Bay Company post since 1840.

Le Pas includes two banks, twenty-eight stores or shops, three hotels, schools, churches, and places of amusement. It is perhaps the most natural wholesale centre of the North and contains openings for manufactures of all sorts.

"Pas" is a French word, meaning "narrow passage," as employed in the well-known geographical terms "Pas de Calais," "Pas de Roland," "Pas du Loup," &c. It was evidently chosen by the early explorers as being descriptive of the Saskatchewan River at Mission Island, near the town.

According to the last Dominion census the population of New Manitoba, the territory recently added to the province of Manitoba, totalled 6,016, the largest population at any one point being given as 1,150 at Norway House at the northern extremity of Lake Winnipeg. "Le Pas Indian Reserves" is credited with a population of only 800; but since the census was taken Le Pas has become an incorporated town with a growing population now over 1,500. This would make the present total population of New Manitoba in the neighbourhood of 7,500.



EASTERN CHANNEL, WHITE MUD FALLS, NELSON RIVER.



AN INDIAN CAMP.

INDIAN TRIBES AND CUSTOMS

By DR. EDWARD SAPIR, HEAD OF THE DIVISION OF ANTHROPOLOGY, OTTAWA



THE Indian tribes of the Prairie Provinces of Canada may be divided into three groups according to the linguistic stocks that they belong to, the term "linguistic stock" being understood to mean all the languages of a group that can be demonstrated to have been derived from a common source. These three linguistic stocks are the Algonquin, Siouan, and Athabaskan or Déné. The Algonquin tribes now represented in the Prairie Provinces are the Plains Ojibwa or Saulteaux of most of Manitoba and of south-eastern Saskatchewan; the Western or Plains Cree of Saskatchewan and Alberta, south of Churchill and Peace Rivers; and the Blackfoot Indians of Southern Alberta, this tribe consisting of the three confederated sub-tribes of the Blackfoot proper or Siksika, the Blood, and the Piegan. These Algonquin tribes are not limited to the prairie region of Canada, bands of the Ojibwa being found as far east as the southern peninsula of Ontario, and to the south in the Great Lakes region of the United States, the Cree (including Woods Cree bands under this head) stretching east over a vast extent of country as far as the eastern shores of James' Bay, while the Piegan division of the Blackfoot is represented also across the

line in Montana. The Siouan stock was originally represented in Canada by the Assiniboine or Stoney Indians, now in western Alberta, only. In comparatively recent times, however, several bands of Dakota, the so-called "renegade Sioux," have taken up their residence in south-western Manitoba and southern Saskatchewan. The real home of the Siouan tribes lies further to the south in the Missouri Valley, the Assiniboine themselves being but an offshoot of the Dakotas. The Athabaskan tribes found in the two western provinces are the Chipewyan of northern Saskatchewan and the region of Lake Athabasca, who extend also beyond the confines of the Prairie Provinces north to Great Slave Lake and east to Hudson Bay; the Slaves of the country north of Peace River, who are mainly situated further north in the upper Mackenzie Valley; the Beaver Indians, who occupy the country west of the Slaves between Peace and Liard Rivers and thus extend into north-eastern British Columbia; and, quite isolated from the main body of Athabaskan tribes, the Sarcee, who, supposedly a southern offshoot of the Beaver Indians, became thoroughly assimilated to the customs and methods of life of the Plains Indians, established friendly relations with the Blackfoot, and are now located near Calgary. The Iroquois of western Alberta in the neighbourhood of the Yellow Head Pass, whom the vicissitudes of the early

fur trade have brought so far west of their proper home in Quebec and who are now very much intermixed with the Cree, may be mentioned for the sake of completeness.

All three of the linguistic stocks of the Canadian Plains include a large number of important tribes extending over large sections of the North American continent; Algonquin tribes are found all through Eastern Canada, the interior of Labrador, and far to the south in the United States, while Athabaskan tribes are known as far north as the lower Yukon and as far south as the arid regions of New Mexico and Arizona. The Athabaskan languages, resembling in this respect those of the west coast, are harsh and difficult of pronunciation; the Algonquin languages, notably Ojibwa, are remarkably smooth and pleasant; and Sioux and Assiniboine are characterized by a great abundance of nasal vowels. The Athabaskan and Algonquin languages have hugely complex grammatical structures, while the Siouan languages are rather simpler.

The number of Indian tribes that made their home in the Prairie Provinces is remarkably small in proportion to the immense territory that they occupied. This is to be explained, at least in part, by the fact that none of these tribes was agricultural in any true sense, so that the economic basis of their life depended on hunting. In other parts of aboriginal America an abundant supply of fish or of

INDIAN TRIBES AND CUSTOMS

edible wild plants made it possible for non-agricultural tribes to lead a settled or semi-settled life in villages, but here on the plains we deal with moving bands of buffalo or caribou hunters, who moved camp frequently and whose territorial limits, at all times ill-defined, changed considerably from generation to generation. Thus the Assiniboine, who were first met with by the early explorers far to the east of their present home, in the country about Lake of the Woods, later moved west to the region of Lake Winnipeg, and then ever westward to the foothills of the Rockies. The advent of the horse must have had a profound influence on the movements of population in this region, in that a ready means was thus afforded the Indian for covering great distances whether in the buffalo hunt or war party. Just when the Plains Indians first learned to use horses is not definitely known, but it is clear that they were well provided with them by the middle of the eighteenth century, long before they had come into any considerable contact with the whites. These horses seem to have been originally secured by intertribal trade from the Spaniards of the south-west, though there is reason to believe that some horses may have come in also from the east.

From an ethnological point of view the tribes we have been considering are to be classified into two groups or culture areas: the Plains culture area, characterized by dependence on the buffalo and by an elaborate development of ceremonial and ritualistic ideas, and the Plateau-Mackenzie culture area, the tribes of which are to a large extent dependent on the caribou and are lacking in the social and religious complexity attained by the tribes of the first group. Both of these culture areas extend far beyond the borders of the Prairie Provinces, the Plains tribes occupying the region to the south between the Mississippi and the Rockies, while the Plateau-Mackenzie tribes extend far to the north and west to the lower Mackenzie and Yukon. Of the tribes enumerated, the Blackfoot, Sarcee, Assiniboine, and Sioux are the most typical of the Plains area, while Beaver, Slave, and Chipewyan are to be reckoned members of the Mackenzie area. The Western Cree and Saulteaux, while generally accounted Plains tribes, are relatively recent intruders from the wooded country to the east and seem to have only partially assimilated the cultural traits characteristic of the typical Plains tribes.

The physical characteristics of the Indians of the Prairie Provinces have not been very thoroughly investigated. The Plains Indians represent the most typical of the physical varieties of American aborigines in the sense that they come closest to the ideal Indian familiar to us in art and literature, the Indian of rather high stature, bold and prominent features, wide face, high cheek-bones, aquiline nose, and manly bearing. In regard to cephalic index, the average, according to Dr. Boas, is somewhat below 80, which would put these Indians in the mesocephalic or medium-headed class. Further to the east, among the Ojibwa, the index increases, indicating the presence of a brachycephalic or short-headed type. The Athabaskan Indians of the Mackenzie basin do not seem to differ much in cephalic index from the Canadian Plains Indians, but are of lower stature and have less prominent noses.

The economic mainstay of the Plains Indians was the buffalo, which at one time roamed over the plains in vast herds and which provided the natives with flesh for food and hides for clothing and tent covers. The arrival of the horse undoubtedly greatly facilitated the hunting of buffaloes, so much so that there is reason to believe that certain Plains tribes that were at one time more largely dependent on agriculture became primarily buffalo-hunters when they found a ready means at their disposal of following up the herds. Before the use of firearms, bows and arrows served to dispatch the game. The herds were in earlier times either driven into pounds or corrals constructed of brush and tree trunks, where they were then killed, or rushed down rocky declivities or ledges, where many of them were killed by the rocks. The meat of the buffalo, which formed the staple food of the Plains Indians, was either roasted or boiled, chiefly the latter. The boiling was done in rawhides supported by four props, sometimes in a paunch, the water being heated by means of red-hot stones lifted in with tongs; there are also indications, both archaeological and traditional, of the former use of earthenware vessels for cooking, but this method was long ago abandoned. A typical food used by these Indians when travelling was pemmican; this consisted of the dried muscles of the buffalo pounded to a cake, mixed with mashed berries, and sealed as a preservative with fat.

Other animals than the buffalo, particularly the deer, elk, and antelope, were also hunted for their flesh, but mainly for their skins. Fish were of very minor importance. While vegetable foods occupied only a secondary place in the primitive larder, they are not entirely negligible, the chief of these being several varieties of berries, particularly service-berries, buffalo-berries, and choke-cherries; edible roots, particularly the prairie turnip, and, among the Blackfoot, the camass-root, were dug up with digging sticks and prepared with meat. Agriculture was not practised, though some of the Plains tribes to the south, such as the Mandan and Hidatsa of the Missouri, and the more eastern bands of Ojibwa, had developed a considerable culture of corn, beans, and squashes. Native tobacco, however, used chiefly for ceremonial purposes, was cultivated by all the Plains tribes.

The Athabaskan tribes of the north subsisted mainly on the caribou, to a considerable extent also on fish, which were generally caught by spearing or in nets. Meat and fish were boiled in bark vessels held directly over the fire, the water in the vessels preventing the bark from flaming. Owing to the rigorous climate and greater difficulty of securing food, the hunting bands were not infrequently reduced to starvation, resulting sometimes, according to well-authenticated accounts, in cannibalism. These Athabaskan tribes, the Cree and the Saulteaux, depended to a considerable extent on small fur-bearing animals, which were snared or caught in dead-falls. Among the Saulteaux several varieties of fish and game-birds, particularly ducks and geese, were of prime importance. The most eastern bands of Ojibwa of the region discussed doubtless also knew the use of wild rice and maple sugar.

The clothing of the Indian tribes here enumerated consisted almost entirely of the tanned skins of buffalo, antelope, elk, and, in the north, caribou. Several of the tribes were excellent tanners, preparing even-grained and flexible skins, with or without the hair left on, and often darkened by means of a smudge. The instruments and methods employed differed somewhat from tribe to tribe, the typical Plains tools being a chisel-like flesher of bone for removing the fat and an adze-like scraper used to remove the hair. The essential step in the tanning process was the applica-

THE PRAIRIE PROVINCES OF CANADA

tion of the brains of the deer or other animal, which rendered the skin pliable, followed by stretching or kneading. The articles of clothing making up the costume of the Plains Indians consisted of a loose shirt, breechcloth, leggings, moccasins, and buffalo-skin robes. The woman's shirt or dress differed from that of the man in coming down lower, about half-way between the knee and the foot. The woman's costume was further characterized by a pair of garters, often richly ornamented, tied around the leggings. In earlier days the garments were sewed with sinew by means of a bone awl. The various articles of dress, particularly the moccasins, were often decorated with geometrical designs which differ from tribe to tribe. In former times these designs were embroidered by means of dyed porcupine quills, laid down according to a considerable variety of technics; but in more recent times coloured beads, which are at the same time easier to work and less pleasing in artistic effect, have displaced these. No woven fabrics worthy of the name seem to have been in use among the Plains Indians. Characteristic of the costume of the Athabaskan tribes of the north are footwear consisting of a combination of moccasin and legging, and hoods. Blankets and certain articles of dress were woven out of long strips of twisted rabbit skin with the hair left on. Such rabbit-skin fabrics, which are extremely warm, were in use also among the Cree, Ojibwa, and many other tribes of northern and western America.

The hair was generally worn long except in mourning; the styles seem to have varied considerably among the different tribes, the men having generally been far more careful about the dressing of the hair than the women. Among the Plains Indians the women either wore the hair hanging loose or in two braids; a favourite method among the men seems to have been the formation of a long lock hanging over the forehead. Among many Indian tribes the hair of the face was often carefully removed by tweezers. Combs consisting of the tail of the porcupine were common throughout the area discussed. Face-painting was practised by all the tribes, but seems to have reached its highest degree of development among the Plains Indians, among whom definite designs were associated with ceremonial features. Hair and body painting were also practised. Tattooing seems to have been found more among the women of the northern Atha-

bascan tribes than among the Plains Indians. Nose and ear rings also were less in use among the latter, though the ears of the infants were regularly perforated. Necklaces and hair ornaments of different types were in use everywhere, many of these serving at the same time as amulets. It is interesting to note the occurrence of several apparently well-authenticated references to the practice of circumcision among the Athabaskan tribes, a practice that on the whole is conspicuously absent among the natives of North America.

Perhaps no single feature is so characteristic of the culture of the Plains tribes as the conical lodge or tepee, nowadays covered with canvas, in earlier days with a cover, sewed together, of several buffalo skins. This type of dwelling, consisting as it did of a portable framework of poles and an easily rolled-up cover, was eminently suited to the life of a roving, buffalo-hunting people. The tepee belonged to the woman, a necessary consequence of which is that the work of putting up the tepee when making camp devolved upon her. The first part of the tepee to be erected is a foundation, consisting, in some tribes, like the Sioux, of three poles, in others, like the Blackfoot, of four; these foundation poles are held in place by a thong tied about their point of crossing. Other poles are then set in their proper place, until the canvas or skin cover, tied to the top of a pole, is ready to be lifted on to and placed about the circular frame. Above the opening for the door, which is usually to the east, the flaps are tied together by wooden pins inserted through holes ready to receive them; the circular bottom of the cover is staked down to the ground by a set of wooden pegs. The fireplace is in the centre of the lodge, the smoke being allowed to escape through the opening at the top of the tepee: this opening can be regulated or, in stormy weather, closed entirely by a pair of flaps or "ears" operated by two movable poles.

The northern Athabaskan tribes and the Saulteaux use various types of bark lodges, one of the most typical of these being the conical house, which is somewhat similar in construction to the Plains tepee. The Saulteaux also knew how to construct a semi-spherical lodge, circular or oval in ground plan, constructed of pairs of saplings that were bent over and tied together, the whole being covered with layers of birch-bark or rush matting. Sweat-houses

are universal in the area discussed, being merely temporary structures among the Plains Indians.

Transportation facilities were quite different among the northern Athabaskan and the Plains tribes. The well-constructed sleds and snow-shoes made by the Chipewyan, Slave, and Beaver, so necessary for winter travel, seem to have been entirely unknown among the Blackfoot and other Indians of the plains. Moreover, the birch-bark canoes of the Ojibwa and of the northern Athabascans, which differed considerably in type from each other, find no parallels in the plains; this is doubtless due to the shallowness of the rivers of that region, which made canoe navigation difficult. On the whole the Plains Indians felt much more secure on land than on the water, often following the courses of rivers for considerable distances instead of crossing them. Some of the tribes, such as the Sioux, made use of a peculiar tub-shaped craft with skin cover, the so-called "bull-boat," for crossing streams; even this type of craft was apparently unknown to the Blackfoot. Before the introduction of the horse, the native dog was valuable as a draught animal. He was harnessed to a highly characteristic type of carrying frame or vehicle, known as the "travois." This consisted of two long poles coming to a point at the end that rested on the dog's back; about half-way down their length they were lashed to a connecting hoop netted with thongs that served to bear the burden, the diverging ends of the "travois" trailing behind on the ground. Instead of the hoop-frame a ladder-like frame of sticks was often used. Larger "travois" were in more recent times also made for horses, and one can still see the horse and "travois" in use among the Blackfoot.

The industries of the Plains Indians were limited in scope, owing to the rather restricted range of materials at their disposal. Metal, plant fibres, and bark were as good as unutilized in aboriginal times. Owing to the difficulty of procuring wood in a prairie country, woodwork attained a rather limited degree of development. So scarce, indeed, were trees of the required height and shape, that the tepee poles were always carefully preserved in moving about, constituting a valuable form of woman's property. Outside of tepee poles, travois frames, bows, arrow-shafts, lances, and certain ceremonial objects, there was curiously little in the objects of



1. INDIANS OF TO-DAY.

2. INDIAN BIRCH-BARK CANOES.

3 & 4. INDIAN ENCAMPMENTS.

THE PRAIRIE PROVINCES OF CANADA

use that was made of wood. Bone and stone were used to a moderate extent. On the other hand, very extended use was made, in the manufacture of many objects, of hides, whether as soft-tanned leather or rawhide. Besides being used for tepee covers, various articles of clothing, and such miscellaneous objects as dog-harness, travois-netting, and bull-boats, which have been already referred to, skins were invaluable in making tobacco-pouches and paint pouches of soft leather, rawhide bags, and cases of various kinds, folding-bags of rawhide (parfleches) used for storage and carrying of meat, quivers, shields, drums, rattles, and other objects. In sharp contrast to the absence of bark as an industrial material among these Indians stands its extensive employment for many purposes among the northern Athabaskan and Saulteaux tribes. Canoes and lodge covers have been already mentioned; bark basketry was also well developed among these tribes. Many articles of skin were also made; particularly worthy of mention are the bags of "babiche" or thong netting made by the Athabaskan tribes.

Of the tribes inhabiting the Prairie Provinces the Plains Indians were by far the most warlike; the Cree and Saulteaux seemed to have been less so, while the Athabaskan tribes of the Mackenzie Valley were known to be relatively cowardly and proved no match for the neighbouring Cree. The war-parties of the Plains Indians were rarely tribal affairs, but generally consisted of raids organized by any one that so desired, accompanied by as many followers as cared to join. Such parties were organized sometimes to revenge the death of a tribesman slain by the enemy in some previous engagement, more often to steal some of the horses of a hostile tribe, thus gaining military glory for themselves. Before the days of firearms the only weapons employed in warfare were bows and arrows, lances, and stone clubs encased in skin; the arrowheads were either of bone or stone. Hide shields served as defensive weapons; apart from their actual protective value, shields were generally provided with painted designs of magic significance, believed to assist materially in warding off the arrows of the enemy. The practice of scalping was widespread in the plains, the scalps of the enemy being generally preserved as trophies. It is a common error to suppose that military prestige depended primarily

on the number of scalps a warrior had taken. As a matter of fact, to "count coup"—that is, to be the first to touch one of the enemy, particularly if he was not disabled—was considered a far greater honour.

The artistic ideas of the Plains Indians find expression in decorative art, dancing, and music. Decorative art consists almost entirely of painted designs on tanned skins and rawhides, and of quilled and beaded designs embroidered on objects of tanned skin. The beaded and quilled designs are in practically every case geometrical in character, occurring on the uppers of moccasins, on soft leather pouches, on ornamented leather strips attached to blankets, and elsewhere. Painted designs are partly of the same sort as these, as in the case of the geometrical designs found on rawhide fringed bags and parfleches, partly realistic in character. The latter type are well illustrated in the painted tepees common among all the Plains tribes, in which a reference is generally implied to the "medicine bundles" of magic power which, with their associated legends and rituals, are inseparably connected with them. A further example of realistic Plains art is to be found in the so-called "winter counts" of the Sioux Indians, which consist of a series of realistic designs painted on buffalo skin and arranged in the form of a spiral; each design serves to recall a past year by referring to some specific event that made it memorable, the winter count thus constituting a primitive calendar and historical record. Several of the geometrical designs referred to, which are nearly all reducible to rectangles and triangles or combinations of these, are found in more than one tribe, but the symbolism may vary or, as in the case of the Blackfoot, may be absent altogether. Good examples of the symbolic interpretation of geometrical designs are to be found among the Sioux; here, for instance, a pair of isosceles triangles resting on the opposite sides of a short base may be interpreted as a feather; an isosceles triangle with enclosed rectangle resting on the base as a tepee; and an elongated diamond as the whirlwind. Among the Saulteaux realistic picture-writing, comparable to the realistic paintings of the Plains Indians, are etched on bark; geometrical designs, frequently floral in character, are found on beaded bags and other articles.

Dancing and music, as so often in abori-

ginal America, are in practice generally found together, though many types of song exist without dancing accompaniment. Instrumental music is of little importance, drum and rattle serving merely as accompaniments to the vocal music. Independent instrumental music was not developed except in the case of the flute or flageolet, which, however, is of distinctly subsidiary importance. A surprising number of types of songs are sung by the Plains Indians, particularly in connection with religious ceremonials. Some of the more important of these, such as the Blackfoot "beaver bundle" ritual and the Sun Dance common to all the Plains tribes, possess hundreds of songs, all of which must be accurately rendered. When one bears in mind the total number of public and private rituals possessed by such tribes as the Blackfoot, the total number of distinct songs used by all the members of the tribe, reaching as it does in the thousands, becomes truly astonishing, and argues a prodigious musical memory on the part of the old men who have accumulated experience in the proper conduct of rituals. It may be noted that favourite songs are often adopted by a visiting tribe, and may thus travel over a great extent of territory.

The social organization of all the tribes here considered is simple, as contrasted with that of the west coast Indians, in that there are no distinctions of rank observed. Slavery was not developed to any extent, captives in war being either killed or adopted into the tribe. Chiefs had little more actual power than the ordinary rank and file, and it was within the power of every one to gain renown for himself by success and bravery on the war-path. Wealth and the possession of powerful medicine bundles also contributed to give one standing in the community.

The Plains Ojibwa were organized into a rather large number of clans possessing animal totems, the members of which were forbidden to intermarry among themselves. The names of the clansmen, however, do not seem to have been associated to any extent with the clans and totems, and in general the whole clan system was not developed along as rigid lines as among the Iroquoian tribes. The Plains tribes of Canada have no totemic clans, but are more loosely divided into a number of bands that seem in earlier times to have occupied more or less definite territories relatively to one another. Among the Piegan there are over

INDIAN TRIBES AND CUSTOMS

twenty such bands, while among the Blood and Blackfoot proper there are many less ; these bands all bear nicknames, such as "Fat-roasters," "Seldom-lonesome," and "Early-finished-eating." It has been thought that bands such as these have been transformed from earlier totemic clans analogous to those of the Ojibwa, but evidence is not conclusive on this point. Marriage is not expressly forbidden within the band, though in practice one generally married outside of it, if only for the reason that most of the members of a band were apt to be blood relatives, among whom marriage was naturally forbidden. In all important tribal gatherings, as for the Sun Dance, the bands arrange themselves in the form of a camp circle, each pitching its tents in a specified part of the circle. This interesting custom is paralleled among all the tribes of the plains, the units of the circle being sometimes clans, as in the case of the Omaha.

Polygamy was common in earlier days among the Plains Indians, though one wife was always regarded as the main wife, whose duty it often was to take an important part in the private rituals of her husband. Among the Blackfoot a man generally took up his residence with his wife's people, so that his children were reckoned members of her band. The line between men's and women's property was rather sharply drawn, the tepee, among other things, as we have seen, always being accounted the property of the woman. Property was transmitted to both male and female descendants, the property of the woman generally going to the daughters, while that of the man went to his sons. An interesting feature in the social life of the Plains Indians is the avoidance of intercourse between certain people who are related by marriage ; particularly strong is the feeling against familiarity of any kind between mother-in-law and son-in-law, it being considered a very serious breach of social etiquette for these to speak to each other. The marriage by a widower of his deceased wife's sister, a custom known as the levirate, was common in this area. Adoption into a family was not uncommon among the Indians of the Plains ; among the Sioux there was an elaborate pipe-ceremony intended to bring unrelated men into the relation of father and son.

Perhaps no single feature is so characteristic of the culture of the Plains tribes as the great development of ceremonials.

These are partly social in character, but the religious element enters strongly into nearly all of them. As a matter of fact the social and religious elements are so closely interrelated that one aspect cannot well be discussed without the other. Of prime importance are various societies, or fraternities, which have their definite dances, songs, and regalia, and to which members are admitted by a formal process of initiation involving the expenditure on their part of a considerable amount of property. While the social or military functions predominate in certain of these societies, the religious aspect is more pronounced in others. Chief in importance among these societies is a progressive series of so-called Age or Military Societies, the members of which pass in a body from one to the other at a certain period of their lives. The first in order of these societies had a membership of young boys, while the highest was reserved for old men of approved valour and experience. Several of the Age Societies were actively connected with the conduct of war expeditions or with the policing of the camp, particularly when on the buffalo-hunt. Among the Blood the series of Age Societies, known by the inclusive term of All-Comrades, consist, in the order of their rank, of the Mosquitoes, All Brave Dogs, Braves, Black Soldiers, Raven Bearers, Dogs, Horns, and Catchers. Several of these names have a wide distribution among similar societies in other Plains tribes. Generally the women were organized into societies analogous to those of the men.

Owing to complete breakdown of the old military life and system among the Indians, the Age Societies and the rituals belonging to them have lost much of their hold upon the people in recent years. A number of other dances, or more properly rituals, however, still occupy an important place in the life of the Indians. By far the most important of these is the famous Sun Dance, which is found in essentially the same form among all the Plains tribes of Canada and the United States, having even been adopted by certain tribes not generally reckoned as belonging to the Plains culture area. The Sun Dance, or Offerings Lodge, as it is sometimes termed, is primarily a ceremonial of prayer addressed to the sun, the Buffalo spirit being also invoked. It is ordinarily given by a man as the result of a vow addressed to the sun in time of distress. In practice the Sun Dance is an

exceedingly complex ritual, lasting several days and consisting of a series of ritualistic observances of religious import, a great number of traditional songs, and the giving of offerings, such as clothing, to the sun. It constitutes, perhaps, the chief force bringing the members of the tribe together, and forms the chief expression of their religious emotion. In earlier days many men inflicted severe torture upon themselves during the Sun Dance, so as to arouse the pity of the powers they supplicated for long life and success. Many other dances of lesser significance are also found, some of them, such as the widespread Cree Dance and Omaha Dance, being popular as forms of social entertainment.

Besides the more definitely public rituals we have briefly considered, there are a great many private rituals associated with medicine bundles. These sacred bundles, which seem to occupy a particularly important place in the religious life of the Blackfoot, are either articles of ceremonial or military use or aggregates of various, in themselves often quite inconspicuous, objects, such as skins of animals, whistles, and heads of birds, kept in wrappings or a bag and believed to be endowed with magic power. A medicine bundle is practically always the property of a single individual, who is supposed to be deriving the benefit of its special magical potency, be it long life, freedom from ill, ability to cure disease, wealth, success in war, or what not. The origin of such a bundle is always a dream, in which some supernatural being, like the Sun, Moon, Morning Star, Thunder Bird, or animal spirit, confers a specific gift or blessing, the outward symbol of which is the bundle, and gives instruction in the form of a ritual, songs, and certain regulations of conduct. The medicine bundle must be carefully handled according to prescribed rules, being generally kept in the rear of the tepee during the night and placed at various points around it in the daytime. Once, and in some cases several times a day, sweet-grass or other aromatic herb is burnt as an incense-smudge inside the tepee. A bundle may be transferred for a consideration, the ritual of transfer putting the purchaser in the same relation to the power that originally granted it as the first recipient of the blessing. As famous bundles are apt to increase in value with each transfer, they come to partake somewhat

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of the nature of investments. The various types of medicine bundles which have been described for the Blackfoot are war bridles, weasel-tail suits, hair-lock suits, head-dresses, shields, otter bundles, bear knives, medicine lances, medicine pipes, beaver bundles, Sun Dance bundles, and many types of painted tepees. The medicine pipes and beaver bundles are the most important of these, and have extremely complex rituals connected with them. The possession of a bundle of one of these types does, perhaps, more to give a man social prestige than any other factor.

Distinct from the owners of medicine bundles are shamans or conjurors, whose function it is to extract disease by sucking or by the singing of medicine-songs. Among the Saulteaux there are several classes of conjurors, such as healers of the sick, jugglers clever at sleight-of-hand performances, and prophets. The most important ceremonial among these Indians was the Midewiwin or Medicine Lodge, which consisted essentially of a series of medicine performances on the part of the shamans of the tribe, who were grouped into four ranks or degrees; at the same time novices were initiated into the secrets of the Medicine Lodge. An important phase of the religious life of the Ojibwa is the acquiring of personal protectors or guardian spirits in dreams; this usually takes place during the period of fasting at the time of puberty. An intimate relation is thus brought about between an individual and a supernatural power, which exercises a profound influence on his whole life. Unlike the medicine bundle of the Blackfoot, the protection of the guardian spirit is not transferable.

The religious ideas of the Indians centred around the general conception of supernatural power, termed Wakan by the Sioux and Manido or Manito by the Ojibwa. Terms such as these are probably understood rather differently by different individuals, but the general conception emerges of a mysterious cosmic force which takes on many concrete forms and which may be transmitted in varying degree to favoured individuals. Thus an amulet and a supernatural being are alike manito,

though in quite different form and degree. The heavenly bodies and the more powerful animals are in particular identified with this power, and we therefore find them prominent in myth, ritual, and prayer. The manifestations of manito, however, are by no means limited to these, and may be exhibited in the most diverse and unexpected forms, animate or inanimate. It would be in vain to seek a definite philosophy or body of religious doctrine in the notions of the Indians on the subject of manito. Though the cosmic power often takes the form of definite supernatural beings, as in the case of the sun, who appears in dreams as an old man, it cannot be said that the Indians developed a clear-cut system of gods or endowed their beings with very definite attributes. The conception of a supreme being was at least vaguely arrived at by the Ojibwa as the Great Manito. Prayers were often addressed and offerings given to supernatural powers. Such offerings were not necessarily of great intrinsic value, but might consist of tobacco or an old garment disposed on some mountain height or other secluded spot. It was the devout prayer implied in such an offering, not its mere outward value, that mattered.

Among all the tribes here considered the dead were believed to depart as ghosts

to some far-off other world, generally located in the west. The life led by the ghosts was believed to be rather indifferent and insipid than definitely happy or painful. Despite the undoubted bravery of the Plains Indians, they had a healthy fear of the dead and were eager to get away from corpses as quickly as possible. In the plains the dead were in former times often buried in trees or on high points of land, articles of use belonging to the deceased being commonly placed with them.

One of the most interesting chapters of Plains culture is the mythology of the Indians. The myths, which are handed down orally from generation to generation, are numerous and consist partly of accounts of the legendary origin of various rituals and societies, partly of narratives of adventure dealing with various beings supposed to have existed in a remotely past mythological epoch. The former type of myth is looked upon as more sacred in character and they are often recited or enacted in the course of rituals, while the latter, though believed by the old men even to-day to be true, are often told of a winter evening for the mere pleasure of the telling. The actors in these are either human beings endowed with supernatural qualities or animals conceived of in the guise of human beings. Some of

the myths are of a decidedly humorous turn and give excellent examples of the Indian's comic sense, a sense in which he is often, for some mysterious reason, believed to be lacking. The most humorous stories are generally such as deal with the Trickster, examples of which are the Old Man of the Blackfoot, Manibojó of the Ojibwa, and Wisakichak of the Cree. The Trickster is generally thought of as a powerful being who does much good for mankind, but who oft-times gets himself into sorry scrapes or plays the clown. Many myths, or at least incidents of myths, are distributed over an immense area in aboriginal America, some of them extending from the Atlantic to west of the Rockies. Such, for instance, is the favourite story of the diving of Beaver or Muskrat for a handful of earth, from which the present world was made.



A MODERN INDIAN GIRL.



HEALTH AND HOSPITALS



ESPISTE the influx of large numbers of immigrants from Southern Europe and the rapidity with which towns have sprung up, the growth of Western

Canada has been singularly free from the epidemics that in the past have often attended the development of new countries. Although due in a large measure to the climate, this immunity would scarcely have been so pronounced but for the effective and extremely comprehensive legislation enacted by the Governments of the different provinces.

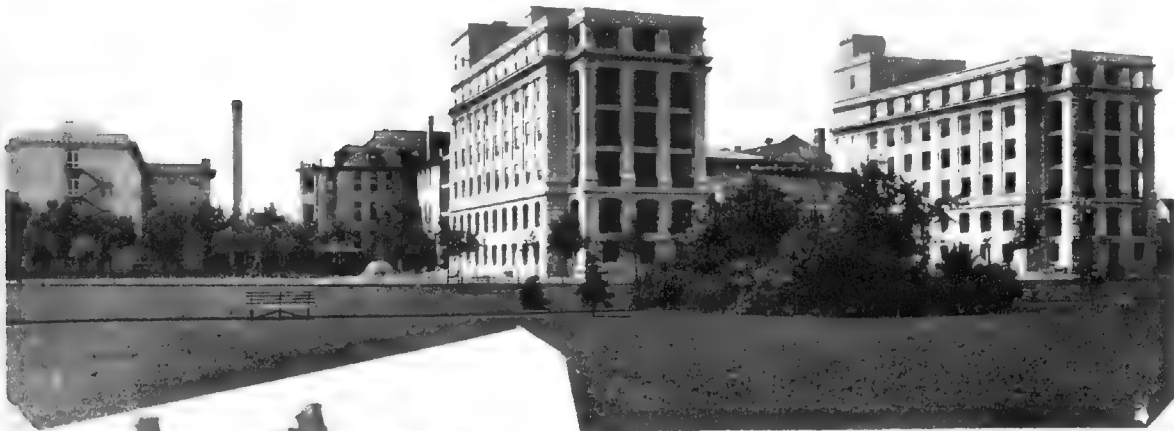
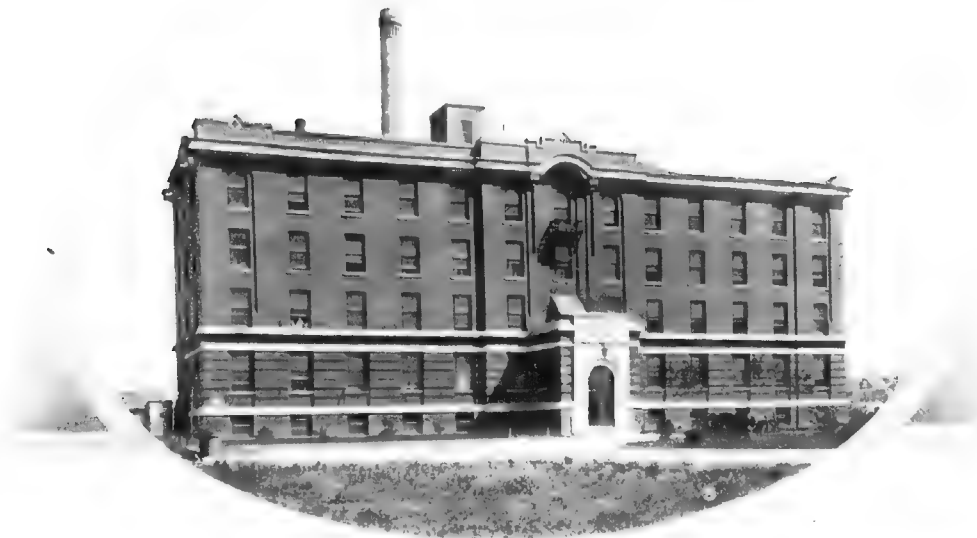
In Manitoba and Alberta all matters affecting public health are regulated by a Provincial Board of Health, which, in Manitoba, is comprised of not more than six members, of whom four must be duly registered medical practitioners, and in Alberta consists of a provincial medical officer of health, a provincial sanitary engineer and a provincial bacteriologist. A provincial bacteriologist is also appointed in Manitoba. In Saskatchewan there is no Board of Health, but in its place a permanent Bureau of Health has been organized. There is also in the latter province a council of public health, consisting of a commissioner, three duly qualified medical practitioners and one qualified veterinary practitioner, whose duties are to review regulations made for the betterment of the

public health and to suggest any amendments that they may deem necessary. The Bureau has been divided into three departments or branches, medical, sanitary, and sanitary engineering. Each branch is under the superintendence of a qualified official who is responsible to the Commissioner of the Bureau for the efficient conduct of his department. The medical branch undertakes inquiries into all outbreaks of infectious and contagious diseases, reports and tabulates records of cases, controls and distributes vaccines, sera, &c., carries out the inspection of hospitals, and undertakes other work of a preventive nature. The duties of the sanitary branch include investigations into all complaints received at the Bureau from Municipal Boards of Health and individuals, the inspection of the sanitary condition of rural municipalities, villages, towns, and cities, and joint action with local health boards in such matters as cleansing, the inspection of foods, dairies, hotels, plumbing, the ventilation of buildings and similar undertakings. The engineering branch of the Bureau investigates the pollution of streams and water supplies, institutes the necessary measures to procure safe and adequate water and sewerage systems, checks and examines plans and specifications sent in by the municipalities previous to the issue by the Commissioners of the Bureau of a certificate for the construction of such works, consults with and advises municipal councils in engineering work

affecting the health of the public, and inspects such works with a view to having them maintained at a proper standard of efficiency. By distributing the duties of the Bureau among three separate departments the work of maintaining a high standard of public health has been greatly facilitated.

In each province the powers conferred on the executive bodies by the Public Health Acts are extremely wide and allow of very stringent measures being taken without such delay as would be incurred if reference to a higher court were necessary. Speaking generally the duties of the Health Boards may be outlined as follows :

- (1) The prevention and removal of nuisances.
- (2) The inspection, cleansing, and sanitary maintenance of all houses, and public buildings and public conveyances.
- (3) The construction, maintenance, and cleansing of all drains and sewerage systems and the cleansing of streets and yards.
- (4) The supervision of noxious and offensive trades.
- (5) The inspection of sanitary equipment and maintenance of all slaughter-houses, starch factories, and similar buildings.
- (6) The isolation of persons suffering from infectious or contagious diseases.



1. THE HOSPITAL, HUMBOLDT, SASKATCHEWAN.
3. GENERAL HOSPITAL, REGINA.

2. ROYAL VICTORIA HOSPITAL, EDMONTON.
4. GENERAL HOSPITAL, WINNIPEG.

HEALTH AND HOSPITALS

(7) The vaccination of children and of all persons entering or residing in the province, not already vaccinated or insufficiently protected by previous vaccination.

(8) The prevention of the use of noxious manures and fertilizers dangerous to the public health.

(9) The supervision of matter conducive to a pure milk supply.

(10) The prevention of the pollution of all lakes, rivers, and streams.

(11) The cutting and storing of ice.

(12) The sanitary condition of lumbering and other camps.

(13) And generally all such matters as may be necessary for the protection of the public health.

Vested with such powers as these it would be strange if the medical authorities did not exercise a far-reaching influence over the life of the people, and there are few matters connected with the material development of the country in which they are not directly or indirectly concerned. To retain complete control over so vast an area as is contained in the three provinces is no easy matter and has necessitated careful organization.

Although the systems obtaining in the provinces are not identical, in each case a scheme has been evolved which enables the governing body to keep in touch with every part of the province. In Manitoba a number of health districts have been formed and a duly registered medical practitioner appointed in each to act as the health inspector. In this province every municipality is required to appoint and pay a medical practitioner to act as health officer of the municipality. In any portion of the province not included within the limits of an organized municipality a health officer may be appointed by the Board. In some municipalities sanitary constables have been appointed. Both health officers and sanitary constables are under the control of the provincial health inspector for the district. In Alberta every city and town is required to appoint and pay a medical officer of health, and every city, town, and village has a local board of health. In cities and towns the board consists of the mayor, the medical officer of health, the municipal engineer (if any) and three ratepayers. In villages it comprises the members of the council and the sanitary inspector (if any). In Saskatchewan a similar system prevails, the board in cities

and towns consisting of the council, the medical health officer, and the engineer. In those portions of the provinces not within the boundaries of a city, town, or health district the Provincial Board of Health, or, in the case of Saskatchewan, the Bureau of Health, appoints medical officers where such an appointment may be necessary. Local authorities render periodical reports to the provincial authorities, and in this way an efficient supervision is effected over all matters affecting the public health.

In so far as is possible the health authorities exercise a rigid supervision over the water supply. This branch of work is not without its difficulties, especially in some of the more arid parts of the prairies, and even in the more settled districts of Manitoba the authorities are sometimes confronted with problems of no little perplexity. Much of the water contains alkali, sand, and other impurities which often affect the health of the newcomer, though the effects are generally of a purely temporary nature. The health officers accordingly concentrate their energies on the purification of the available water, protect it from pollution, and ensure its storage and conveyance in uncontaminated pipes and reservoirs. This the Boards are enabled to do by clauses in the Public Health Acts which require all plans for new waterworks or additions to existing waterworks to be submitted to the Boards of Health, together with an analysis of the water from the proposed source of supply. These plans are carefully examined by the Board, and in the event of their proving satisfactory a certificate is issued for the construction of the works. Without such a certificate, however, work in this direction cannot be undertaken. A special clause in the Public Health Act of Alberta provides that, when necessary, water for domestic purposes may be obtained from supplies used for irrigation, mining, or industrial purposes, after inspection by a health officer and the sanction of the Board. All waterworks are periodically inspected, and should there be any evidence of impurity the defect must be immediately remedied at the expense of the municipality. It will be seen therefore that the difficulty of ensuring a satisfactory supply of pure water is one which in Western Canada receives the constant attention of the authorities.

The phenomenal growth of many of the towns of Western Canada has made it a

matter of some difficulty to provide adequate sewers, and the difficulty has in some cases been enhanced by the lack of suitable outlets for sewage. As in the case of waterworks, all plans for the construction of sewerage and auxiliary systems are inspected by the medical officers of the province before permission is given for the work to proceed. No system may be established unless there is maintained in connection therewith a system of sewage purification and disposal. In the more settled districts it sometimes happens that a considerable saving of labour and expense can be effected by combining the sewerage arrangements of two or more municipalities, and the Public Health Act of Manitoba specifically enacts that if the Provincial Board considers such a course advisable the work shall be done and the expense shared by the municipalities concerned. In the event of the sewerage system of any municipality contaminating the water supply the Board can compel the municipality in question immediately to take steps to rectify the matter.

Despite its comparative youth, Western Canada is not without its slum problem, and in more than one of its larger cities the medical officers are waging a stern fight to overcome the evils which spring from overcrowding. The legislation governing tenement houses has necessarily to be very stringent and is enforced by equally stringent inspection. One of the most striking clauses in that section of the Public Health Act of Manitoba which deals with the question is that which limits the base of the tenement house to 50 per cent. of the plot on which it is built. In Saskatchewan the legislation on this point is not so severe, and 80 per cent. of the plot may be occupied. Similar regulations are in force in Alberta. In certain cases these restrictions are modified, but everything is done to ensure a sufficiency of fresh air and proper sanitary arrangements.

In each of the three provinces the sanitary upkeep of dairies is encouraged by a system of score cards. By this system each dairy is periodically inspected and certain marks are allotted for cleanliness, health, the comfort and feeding of the cows, the construction, upkeep, and situation of the stables, the efficiency of employees, the employment of the proper utensils, and other matters likely to affect the purity of the milk. Whilst this system has engendered a very beneficial competition among

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dairy owners, the public have shown a very keen interest in the scheme and several newspapers publish the scores weekly. It augurs well for the future standard of milk production that in Winnipeg the number of dairies scoring "very good" and "good" during 1911 rose from 28 in January to 42 in December, and this despite the decrease in the total number of dairies from 108 to 88. In addition to the suggestions made by dairy inspectors the dairy owners of the three provinces are further helped by the issue of Government circulars containing much useful information on the subject of milk production.

It is but consistent with the general attitude of the authorities towards matters affecting the public health that vaccination is compulsory in each of the three provinces and no child is permitted to enter any school without a certificate of vaccination from a doctor. Free vaccination is given to those persons who cannot afford to pay a doctor's charges. In a case of dangerous infection the Health Board have the power to place the infected house under quarantine. In other cases partial quarantine is adopted, such as the isolation of the room in which the patient is confined. When the case is cured or removed the house is thoroughly disinfected either at the expense of the tenant or the municipality.

In earlier years disastrous epidemics of typhoid fever were frequent, and even in 1905 there were over 1,600 cases in Winnipeg alone. The energies of the medical profession were brought to bear upon the question, and with improved sanitation and a rigid system of inspection a wonderful improvement was effected. In fact, despite the thousands that have been added to the population of Winnipeg since 1905 the cases of typhoid fever had in 1911 dwindled to 794. Of other infectious diseases scarlet fever, diphtheria, and measles are most prominent, and notwithstanding the greatest

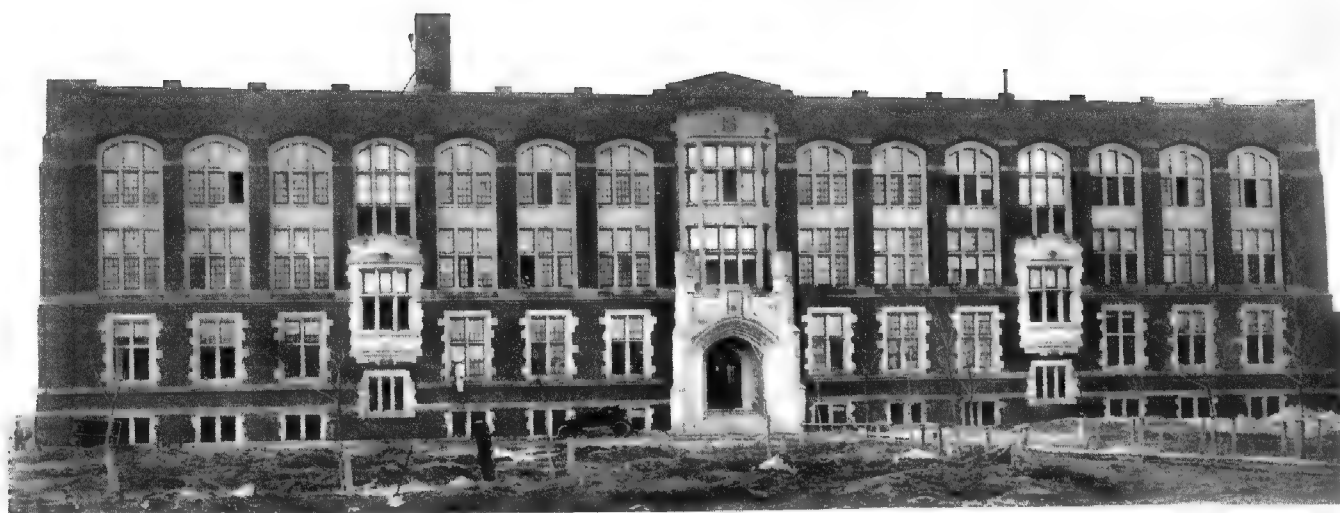
efforts of the Board of Health local epidemics frequently break out and each disease adds its quota to the death-rate of the country. The Bureau of Public Health of Saskatchewan has issued specific regulations as to the course to be adopted when any of the more common infectious and contagious diseases break out. Excellent results are obtained by the issue of circulars. The latter scheme is not adopted solely by the Saskatchewan authorities but has also found favour in the eyes of the Boards of Health of Alberta and Manitoba. The fight against disease even finds a place in the schools of the provinces, where the teachers give short lessons on flies as carriers of disease and point out the dangers arising to dwelling-houses from the proximity of wet or filthy places. In a few Western towns the extermination of the fly has been encouraged by newspapers and councils, small prizes being awarded for slaying certain quantities of the insect. The scheme has met with great success at Brandon, Manitoba, where enormous quantities of dead flies have been handed in to the inaugurators of the scheme.

The fight which is being waged in other parts of the civilized world against pulmonary tuberculosis has its counterpart in Canada. Deaths caused by this disease in Winnipeg alone numbered 151 in 1909, 117 in 1910, and 108 in 1911. It seems not unlikely that the overheated condition of many offices and homes during the winter months forms a contributory factor to the evil, the sudden change from an overheated office to the freezing outside air being attended with considerable risk. Anti-tuberculosis campaigns have been inaugurated and vigorous educational methods adopted, while special hospitals for the treatment of consumptives have been erected at spots chosen by the medical authorities. Among the latter the new sanatoria at Fort Qu'Appelle and

Winnipeg are deserving of special mention, the former standing in grounds consisting of 230 acres. The anti-tuberculosis societies prosecute an active campaign against the disease, giving lectures, distributing supplies, and conducting a tuberculosis clinic. Their efforts have earned the unstinted praise of the medical authorities, but they would deserve a still greater meed of gratitude from the public if they were to take active measures to prevent expectoration in streets, hotels, and other public places. Both the provincial governments and the various local councils have passed laws and by-laws forbidding this practice, but this dangerous habit is nevertheless everywhere in evidence.

Practically every town with more than 1,000 or so inhabitants has a general hospital, which in most cases is in receipt of subsidies from the Provincial Government. When it is quite impossible for the patient to pay, free accommodation and treatment are usually given. Generally, however, some contribution is exacted in return for the use of the hospital. The generous free hospital system of the United Kingdom finds no parallel in Western Canada, and it is only to patients who are able to prove abject poverty that free treatment is extended.

In Manitoba doctors who come from the United Kingdom holding British certificates of registration as duly qualified medical practitioners are allowed to practise after proving their identity and paying the registration fees of the province. The authorities in Alberta and Saskatchewan, however, have seen fit to require such practitioners to requalify by passing the provincial examinations in addition to proving identity and paying the registration fees. Doctors holding British certificates of registration dated prior to June 30, 1887, are exempt from examination in Saskatchewan.



NEW METHODIST COLLEGE, REGINA.

EDUCATION

BY DR. W. A. MCINTYRE, PRINCIPAL OF THE NORMAL SCHOOL, WINNIPEG

MANITOBA



ONE of the most important functions of the Provincial Governments in Canada is the administration of education. In Manitoba this duty is entrusted to the Department of Education, which, like other departments, is under the direct control of a member of the Executive Council.

General Scheme of Organization

For purposes of organization and administration the whole province is divided into municipalities, each with its own council and special officers. Within these municipalities there are formed school districts, which may include as many as twenty square miles. Each district has its own school board, consisting of three members. These are chosen at an annual meeting of the ratepayers. Where it is found advisable or necessary, a school district may be composed of territory in two or more municipalities. Where the people think it wise, several districts may unite or consolidate and provide for transportation of the pupils at the expense of the districts. This gives rise to the Consolidated School, and there are now about forty of these schools in the province. Where the municipality is a town or a city the school district is usually coterminous with the municipality. Sometimes a town

and a rural community unite to form a school district. There is thus ample provision made in the statutes for meeting local needs.

The Department of Education

The Department of Education, presided over by the Minister of Education, among other things determines the duties of public and high school inspectors; prescribes forms for school registers and reports; provides for the organization of normal and model schools, high schools and intermediate departments, collegiate departments and collegiate institutes; arranges for the examination of teachers and candidates for diplomas of various kinds; issues certificates to teachers and others entitled to receive them; prescribes vacations, and makes regulations regarding school attendance; arranges for the printing and publication of textbooks, copy-books, maps, and the like; controls the free distribution of textbooks; organizes schools in unorganized territory; and in general exercises supervision over all the public elementary and secondary schools in the province.

The Advisory Board

This Board consists of twelve members, selected in part by the teachers of the province. Other members are directly appointed by the Lieutenant-Governor in Council. This Advisory Board has power—

To make regulations for the dimensions,

equipment, style, plan, furnishing, decoration, and ventilation of school-houses, and for the arrangement and requisites of school premises;

To examine and authorize textbooks and books of reference for the use of pupils and school libraries;

To determine the qualification of teachers and inspectors for high and public schools;

To determine the standard to be attained by pupils for admission to high schools;

To decide or make suggestions concerning such matters as may from time to time be referred to them by the Department of Education;

To appoint examiners for the purpose of preparing examination papers for teachers' certificates and for the examination of pupils seeking to enter high schools; these examiners report to the Department of Education.

To appoint sub-examiners for the entrance, teachers', and other examinations; these sub-examiners report to the Advisory Board;

To prescribe the forms of religious exercises to be used in schools;

To make regulations for the classification, organization, discipline, and government of normal, model, high, or public schools;

To determine to whom teachers' certificates shall be granted, and to cancel certificates at any time granted, and also to accept

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certificates granted outside the province in place of an examination ;

To decide upon all disputes and complaints laid before them, the settlement of which is not otherwise provided for by law.

The Local School Board

In the several school districts of the province each local school board has power to arrange for annual and special meetings ; to provide accommodation for pupils ; to employ teachers ; and in general is responsible for the work of the school. The local school board reports semi-annually to the Department of Education as to educational conditions in the district.

Inspection

The Department of Education becomes aware of the work done in each district of the province through the visits of its inspectors, who report not only to the Department but to the Boards of Trustees concerned. In cities the superintendents of schools act as inspectors for the Department of Education.

The Support of Schools

The money necessary to the support of schools is provided from three sources—the revenues of the province, municipal taxation, and local taxation. The provincial aid amounts to about \$130 a year for each schoolroom in operation for a year. The municipal grant is \$240 for the same period. The remaining expense must be borne by the districts. Full machinery is provided for the collection of taxes.

In secondary schools the assistance from the Government depends upon the work done, and is sufficient to make it worth while for cities and towns to aim at efficiency.

Course of Study

The course of study for elementary schools resembles that in use in the other provinces, although emphasis is placed on local needs. Ample provision is made for physical, intellectual, and moral instruction. Manual training, music, drawing, and nature study find a place on the programme side by side with such studies as reading and composition. The success attained in each branch depends, as in other places, upon the local interest. In the leading cities provision is made for

medical inspection. Every precaution is taken to guard against the spread of infectious and contagious diseases.

Bi-lingual Teaching

There are so many non-English districts in the province that provision is made for bi-lingual teaching. This provision is set forth in the following clause :

“When ten of the pupils in any school speak the French language, or any language other than English, as their native language, the teaching of such pupils shall be conducted in French or such other language, and English, upon the bi-lingual system.”

Religious Teaching

Because of a strong desire on the part of some for religious exercises and religious teaching in the schools, the following clauses were inserted in the School Acts :

“Religious teaching, to be conducted as hereinafter provided, shall take place in any public school in Manitoba :

“(a) If authorized by a resolution passed by the majority of the school trustees of the district in which the school is carried on, or,

“(b) If a petition be presented to said school trustees asking for religious teaching and signed by the parents or guardians of at least ten children attending the school in the case of a rural school district, or by the parents or guardians of at least 25 children attending the school in the case of a city, town, or village school.

“Such religious teaching shall take place between the hours of half-past three and four o'clock in the afternoon, and shall be conducted by any Christian clergyman whose charge includes any portion of the school district, or by any person duly authorized by such clergyman, or by a teacher when so authorized.

“Where so specified in such resolution of trustees, or where so required by a petition of parents or guardians, religious teaching during the prescribed period may take place only on certain specified days of the week instead of on every teaching day.

“In any school in towns and cities where the average attendance of Roman Catholic children is 40 or upwards, and

in villages and rural districts where the average attendance of such children is 25 or upwards, the trustees shall, if required by a petition of parents or guardians of such number of Roman Catholic children, respectively, employ at least one duly certified Roman Catholic teacher in such school. In any school in towns and cities where the average attendance of non-Roman Catholic children is 40 or upwards, and in villages and rural districts where the average attendance of such children is 25 or upwards, the trustees shall, if required by a petition of parents or guardians of such children, employ at least one duly certified non-Roman Catholic teacher.”

“Where religious teaching is required to be carried on in any school in pursuance of the foregoing provision, and there are Roman Catholic and non-Roman Catholic children attending the school, and the schoolroom accommodation does not permit of the pupils being placed in separate rooms for the purpose of religious teaching, provision shall be made by the regulations of the Department of Education (which regulations the board of school trustees shall observe) whereby the time allotted for religious teaching shall be divided in such a way that the religious teaching of Roman Catholic children shall be carried on during the prescribed period on one-half of the teaching days in each month, and the religious teaching of the non-Roman Catholic children shall be carried on during the prescribed period on one-half of the teaching days of each month.

“No separation of pupils by religious denominations shall take place during the secular school work.

“Where the schoolroom accommodation at the disposal of the trustees permits, instead of allotting different days of the week to different denominations for the purpose of religious teaching, the pupils may be separated when the hour for religious teaching arrives, and placed in separate rooms.

“No pupil shall be permitted to be present at any religious teaching unless the parents or guardians of such pupil desire it. In case the parents or guardians do not desire the attendance of pupils during such religious teaching, then such pupils shall be dismissed before the religious teaching is begun, or shall remain in another room.”



1. NORMAL SCHOOL, CALGARY.
3. HIGH SCHOOL, COLLEGIATE, REGINA.

2. HIGH SCHOOL, CALGARY.
4. HIGH SCHOOL, EDMONTON.

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Secondary Schools

These are of three grades. The intermediate schools, numbering at present about 56, are in the smaller villages. They provide instruction beyond that of the elementary school. Sometimes they cover the first two years of high-school work, and sometimes only one year. In these schools many of those intending to become teachers get their early academic training. In the high schools the work is extended to cover all that is demanded of those wishing to enter a university or to take teachers' certificates of the second grade. There are about 16 of these high schools at present. In the six collegiate institutes now in operation much more is attempted. There are courses for general culture, and vocational courses. The number of options in the technical high schools of Winnipeg is very great. There is, therefore, ample opportunity given to every child in the province to receive the form of education he most desires. Among the courses offered to pupils in the high schools of the province is one in Agriculture. Such a course gives practical information and training to those attending, and directly prepares for work at the Agricultural College, just in the same way as the course in Literature, Arts, and Science is valuable as an end in itself and also prepares for admission to the university.

The Supply of Teachers

One of the greatest problems in Manitoba is that of securing a body of competent teachers. There are so many openings for young men that few enter the teacher's calling. Young ladies do not remain very long at the work, and so the staff is continually changing. Notwithstanding these disadvantages, the standard of attainment in scholarship and teaching is very gratifying. Within the province itself the ranks are being continually filled by graduates of the secondary schools and the university. Then the older provinces and Great Britain supply a great many teachers each year.

The course of study in high schools for those intending to take up the teacher's course is very practical. It includes, for beginners, study in reading, literature, composition, grammar, penmanship, spelling, geography, agriculture and elementary science, arithmetic, geometry, bookkeeping, history, drawing, and music, and either algebra or sewing, and domestic science.

Those wishing to obtain certificates of a higher grade can take advanced studies in the same branches or may pursue equivalent studies in the university.

This academic preparation is only the first step in a teacher's training, since attendance at the normal school is also demanded. There are several centres of training for junior teachers. The course for such teachers is short and practical. Chief attention centres in methods of instruction and management. The Provincial Normal School at Winnipeg gives training to teachers of the higher grade. The course includes the practical study of pedagogy, school management, history of education, methods of teaching and government. There is practical work in teaching and observation, and academic instruction in such lines as the school arts, manual training, and physical culture. Following the course at the Normal School the students put in one month at the Agricultural College. Second class teachers receive, therefore, a course of about eight months' instruction in the science and art of education after they have received their academic training.

There is an extra-mural course for first class teachers directed from the Normal School. This includes a wide course of reading, and demands the preparation of a thesis on a topic to be approved by the Advisory Board.

Teachers who receive their academic and professional training outside the province can receive recognition in Manitoba on presenting their credentials to the Department of Education for inspection and endorsement.

Institutes

There are held throughout the province two classes of institutes of great importance to education. The school trustees of the various districts meet each year in local convention to discuss ways and means. Then annually there is a great gathering in Winnipeg at which live issues are discussed freely. The trustees' conventions have been a source of inspiration and enlightenment. Teachers have gatherings of like kind. The annual convention boasts an attendance of over 1,000.

The statistics for 1910, on p. 161¹ will give some idea of conditions in Manitoba.

¹ These are the most recent figures of which the accuracy is beyond dispute.

The University

In the early days of the province the religious denominations were very anxious to prepare students for the ministry. They opened training schools or colleges, and decided to unite for the purpose of granting degrees. They stood behind legislation looking towards the founding of a university. Such a university was at first simply a degree-conferring body with which the denominational colleges were affiliated. In the course of time other colleges came into existence, some of these undenominational—such as the Medical College and the College of Pharmacy. It was found in the course of development that the denominational college could not cover the whole range of work satisfactorily, and the university began to teach science and mathematics. Gradually the work has extended, until now the university proper teaches everything that is necessary to the Arts degree with the exception of two branches. It also offers two well-rounded courses in engineering. The number of students attending the university or the affiliated college each year is over 1,200. The course of study for the early years is partly prescriptive and partly elective. In the senior two years the course is almost altogether elective, and there are so many courses open to the students that there is practically individual choice.

Until the present time the university has been situated on a small site in the centre of the city, but arrangements have been completed for a site of 125 acres at St. Vital, about seven miles from the heart of the city.

The control of the university is vested in a council consisting of representatives from the various colleges and from other interests. Recent developments indicate that the university will become one of the greatest educational institutions in Western Canada.

Agricultural College

As Manitoba is essentially an agricultural province, it was fitting that a college should be established for the training and guidance of farmers. Such a college was established about twelve years ago, and so great was the interest manifested in its work that it was found necessary to provide new quarters at St. Vital, and there a magnificent structure is now in course of erection and will be ready for occupation in 1914. At this college, work of an advanced type will

EDUCATION

SUMMARY OF STATISTICS.

Number of school districts at December 31, 1910	...	...	1,551
Increase for the year	...	40	
Number of pupils of all ages enrolled during year	...	...	76,247
Increase for the year	...	3,203	
Average daily attendance of pupils	...	...	43,885
Increase for the year	...	2,480	
Percentage of average attendance to total attendance	...	...	57.55
Increase for the year	...	87	
Number of teachers employed : male, 621, female, 2,153	...	...	2,774
Decrease, male, 16 ; increase, female, 128 ; increase	...	112	
Number of teachers attending provincial normal school	...	...	122
Decrease for the year	...	14	
Number of teachers attending local normal sessions	...	...	381
Increase for the year	...	69	
Average annual salary in rural schools	...	...	\$544.22
Decrease for the year	...	\$6.39	
Average annual salary in graded schools	...	...	\$749.44
Increase for the year	...	\$12.92	
Highest salary paid in rural schools	...	...	\$800.00
This item the same as last year.	...	...
Average annual salary for the whole province	...	...	\$628.25
Increase for the year	...	\$7.35	
Number of teachers with first-class professional standing	...	...	273
Decrease for the year	...	12	
Number of teachers with second-class professional standing	...	...	1,452
Increase for the year	...	121	
Number of teachers with third-class professional standing	...	...	718
Decrease for the year	...	81	
Number of interim certificates	...	...	251
Increase for the year	...	64	
Amount expended for sites and buildings	...	...	\$830,431.66
Increase for the year	...	\$188,531.75	
Amount expended for teachers' salaries	...	...	\$1,327,010.32
Increase for the year	...	\$123,778.47	
Amount expended for all purposes	...	...	\$4,000,671.13
Increase for the year	...	\$663,171.08	
Number of collegiate institutes	...	...	8
Increase for the year	...	3	
Number of high schools	...	...	15
Increase during the year	...	1	
Number of intermediate schools	...	...	48
Increase for the year	...	1	

be done. It is proposed to place it on a par with such well-known institutions as the Guelph Agricultural College and the

College at Madison, Wisconsin. At present the college is independent of the university, and grants its own degrees, but now that

the two institutions will be side by side at St. Vital it is possible that their forces may be united in some way so that all the advantages of a single institution may be obtained.

Summary

It will thus be observed that in Manitoba provision for public education has been made in elementary and secondary schools, in a university, and in an agricultural college. All of these are interrelated, and their combined efforts make it possible for young people to attain a liberal culture and to receive vocational preparation.

Private Instruction

Apart from the public schools there are many private institutions that do educational work. In the large cities there are several elementary schools (chiefly denominational) which minister to the needs of a great community. There are also commercial colleges and correspondence schools which meet the needs of many. Medical education is carried on by the Manitoba Medical College, which is one of the finest institutions of the kind in the Dominion. It is affiliated with the university. The College of Pharmacy is a parallel institution which meets the needs of a large number of students. Societies such as that of the Chartered Accountants, the Surveyors, the Architects, &c., if they do not give a complete course of instruction, at least hold examinations which guarantee that those engaged in the various callings are capable. At Altona and Gretna are good secondary schools carried on under direction of the Mennonites. At Brandon there is a college doing work in arts and theology, as well as full academic work. A course for ladies is given here also. This institution is affiliated with McMaster University, Toronto. St. Mary's Academy, in Winnipeg, is a fine type of the denominational school. It is under the direction of the Roman Catholic Church, but students of all denominations attend.



ALBERTA

The Department of Education

THERE is in Alberta a department of public service, known as the Department of Education, which is presided over by a Minister of the Crown. This Department has the regulation and management of

kindergartens, public and separate schools, normal schools, teachers' institutes, and the education of deaf mutes and the blind. The Department makes regulations for the classification, organization, government, examination, and inspection of all schools

in the province ; for the construction, furnishing, and care of school buildings ; for the examination, licensing, and grading of teachers ; for a teachers' reading course, and teachers' institutes ; for the authorization of text-books, reference books, and

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other school equipment ; for the preparation of lists of books suitable for school libraries ; and for the training of teachers. As head of the Department the Minister has power to settle disputes in matters pertaining to education ; to appoint official trustees in unorganized districts, or where it seems necessary ; to cancel certificates ; to provide suitable forms on which trustees shall make reports ; to collect information by way of annual reports from the schools ; and in general to make any provision not inconsistent with the statute that may be necessary to meet the educational needs of the province.

Educational Council

There is an Educational Council to assist the Department of Education. It makes or approves regulations respecting the inspection of schools ; examining, training, licensing, and grading of teachers ; courses of study ; teachers' institutes ; text and reference books. This council must hold meetings at least once a year. It consists of five members, of whom at least two must be Roman Catholics.

Local Organization

Full provision is made for the organization of school districts in rural communities. These districts are not to exceed five miles in length or breadth ; and there must be resident in any district eight children between the ages of five and sixteen. The schools are free to all residents of the district, but there may be a charge to non-residents.

The usual holidays and vacations are permitted. These include the statutory holidays, and two months in midsummer.

All schools must be taught in the English language, but it is permissible for the Board of any district to cause a primary course to be taught in the French language.

In every rural district the Board is required to acquire a site in the centre of the district, or as near thereto as conditions will permit.

The School Board in every rural district consists of three members. In towns the School Board consists of five members. It is among the duties of trustees to appoint officers to secure a site ; to prepare and transmit reports to the Department of Education ; to keep a record of meetings ; to provide adequate school accommodation ; to keep the buildings in repair ; to provide drinking water ; to erect and keep stables in

order ; to provide school libraries and necessary school apparatus ; to engage and dismiss teachers ; to provide for the payment of teachers' salaries ; to settle local disputes ; to enforce the law with respect to compulsory education, and generally to perform such duties as may be required by statute.

In cities and towns the Board has power to provide rooms and employ teachers for giving instruction in manual training, domestic science, physical training, music, and art ; to employ a health officer and superintendent of schools. The Board also has power to issue debentures and to borrow money.

Separate Schools

Because of the mixed population in Alberta a minority of the ratepayers in any district, whether Protestant or Roman Catholic, may establish a separate school therein ; and in such case the ratepayers establishing such Protestant or Roman Catholic school are liable only to assessments of such rates as they impose upon themselves in respect thereof.

Religious Instruction

The Act is very specific, and the three clauses touching this question are quoted as follows :

137. No religious instruction, except as hereinafter provided, shall be permitted in the school of any district from the opening of such school until one half-hour previous to its closing in the afternoon, after which time any such instruction permitted or desired by the Board may be given.

2. It shall, however, be permissible for the Board of any district to direct that the school be opened by the recitation of the Lord's Prayer.

138. Any child shall have the privilege of leaving the schoolroom at the time at which religious instruction is commenced as provided for in the next preceding section, or of remaining without taking part in any religious instruction that may be given if the parents or guardians so desire.

139. No teacher, school trustee, or inspector shall in any way attempt to deprive such child of any advantage that it might derive from the ordinary education given in such school, and any such action on the part of any school trustee, inspector, or teacher shall be

held to be a disqualification for and avoidance of the office held by him.

Compulsory Education

In every district where there are at least twenty children between the ages of seven and fourteen, inclusive, resident within the district, it is compulsory for the Board of such district to keep the school in operation at least 200 teaching days during each year. Truant officers may be employed.

Salaries of Teachers

Teachers are liberally remunerated, and their salaries must be paid at least once every three months. As in the other provinces, the duties of teachers include such matters as the teaching of the subjects of study, the maintaining of discipline, the preparation of a time-table, keeping a register, the promoting of pupils, holding public examinations, sending monthly reports to the parents, caring for the premises, giving strict attention to sanitary conditions, and sending returns to the Department.

Teachers' Associations

The teachers of the province have organized themselves into an association, which holds conventions and meetings which are well attended.

Transportation of Pupils

There is a provision under the statute for the conveyance of children to school at the public expense. Advantage has not yet been taken of this clause in the Act.

Support of Schools

Legislative aid to rural schools consists of a regular rate of \$1.20 per day for each day school that is kept open ; 40 cents per day additional for each district school kept open more than 160 days ; 10 cents per day additional for each district engaging a teacher holding a first class professional certificate ; and a sliding scale of fees based upon the percentage of the attendance. A somewhat similar grant is made to villages and towns. Special provision is made for aid to higher education. As supplementary to legislative aid there is a tax based on local assessment. Full provision is made under the statute for assessment and collection of taxes for school purposes. The actual receipts and expenditures for any school district correspond very closely to the figures for a school district in Saskatchewan, to which the reader is referred.

EDUCATION

Course of Studies

The course of studies for schools is in general similar to that of the other provinces. The elementary school is divided into eight grades, and the secondary school into four grades. The course for elementary schools is briefly indicated in the following outline :

GRADES I TO VIII.											
Subjects.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.			
Arithmetic	x	x	x	x	x	x	x	x			
Reading and Literature ...	x	x	x	x	x	x	x	x			
Writing	x	x	x	x	x	x	x	x			
Spelling		—	x	x	x	x	x	x			
Grammar		—		x	x	x	x	x			
History and Civics	—		—	—	x	x	x	x			
Composition	x	x	x	x	x	x	x	x			
Nature Study	x	x	x	x	x	x	Agri.	Agri.			
Geography			—	—	x	x	x	x			
Drawing	x	x	x	x	x	x	x	x			
Geometry						—	—	x			
Manual Training and House-											
hold Science	x	x	x	x	x	x	x	x			
Physical Culture	x	x	x	x	x	x	x	x			
Hygiene	x	x	x	x	x	x	x	x			
Music	x	x	x	x	x	x	x	x			

The course in the Secondary School includes a further study of the elementary branches and an extensive course in elementary science, mathematics, literature, modern and ancient languages—part of which course is optional and part obligatory. Those completing the programme of the four grades in the secondary schools receive diplomas, which are recognized for admission to the teaching profession or to the University.

Training and Supply of Teachers

Those who have the necessary scholarship—Grade XI or XII, or University standing—may be admitted to the Normal School. Those who have received similar standing in other provinces or countries may be admitted on equal terms. Candidates for the Normal School must be, in the case of females, over sixteen years of age, and, in the case of males, over eighteen years of age. This provision is common to the three Prairie Provinces. The studies the Normal School include :

1. Psychology and General Method ; History and Philosophy of Education ; Class Management ; School Law and Regulations.

2. Methods of teaching (a) English (Primary Reading, Oral Reading, Spelling,

Writing, Composition, Grammar, Literature) ; (b) Science (Geography, Nature Study, Agriculture, Physiology and Hygiene) ; (c) Mathematics (Arithmetic, Elementary Geometry, Algebra) ; (d) Manual Arts (Manual Training, Drawing and Penmanship) ; (e) History and Civics ; (f) Music ; (g) Physical Training.

3. Observation of lessons taught by the staff of the Normal School and by the staff of the Practice School.

4. Practice in teaching.

Each teacher-in-training is asked to read orally prose and poetical selections and to interpret the same. Each is also examined in singing. The teaching ability of each is judged by lessons taught in the presence of the critic teachers of the Practice School and of the members of the Normal School staff. A written examination based on lectures given and on the prescribed text-books is held at the end of the session.

Normal School diplomas are of two grades—second class, corresponding to Grade XI diploma, and first class, corresponding to Grade XII diploma, and degree in arts. The course of training lasts about eighteen weeks. There are no fees for attendance at the Normal School.

The following information is useful for those intending to come to Alberta to teach :

“Persons holding certificates or diplomas not obtained in the Province of Alberta may be granted such standing as the Minister of Education may deem them entitled to. Every applicant for an Interim

Certificate under this regulation shall submit to the Department (a) the certificates which he holds, (b) an official statement that such certificates are valid and in force, (c) a certificate of moral character dated within three months of the time of presentation, (d) a recent testimonial from the inspector under whom he last taught.”

Certificates are not granted to teachers from other provinces until they arrive in Alberta or enter into an agreement with an Alberta School Board. Before coming to the province or entering into a contract with an Alberta Board of Trustees, teachers are advised to submit the required documents to the Department of Education for approval. Teachers are warned against acting upon unreliable information.

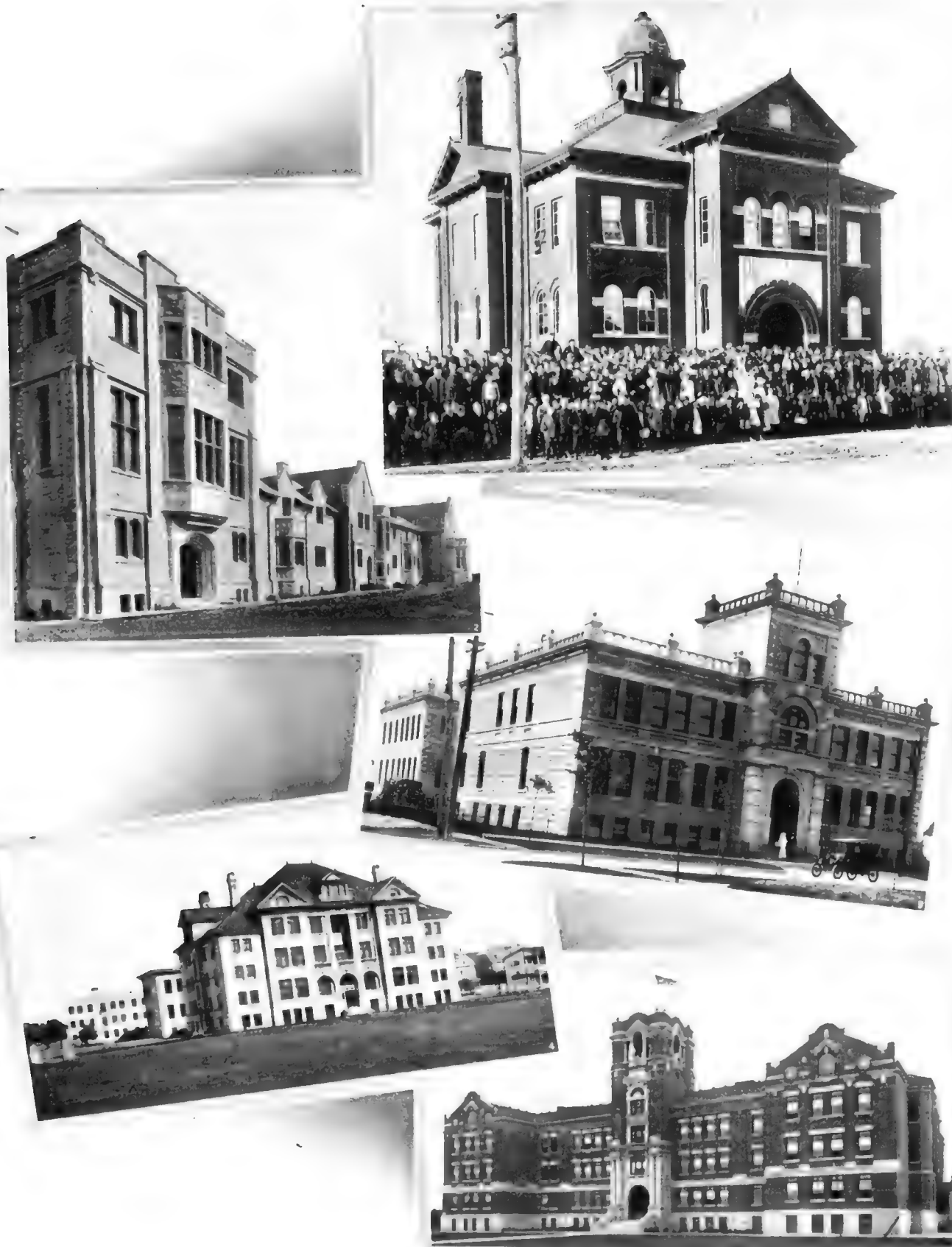
To supply the schools of the Province, between 300 and 400 trained teachers are required yearly in addition to the number already employed. Eastern teachers are constantly securing schools in Alberta at salaries varying from \$600 to \$750 per year, and the demand continues as strong as ever. Board in rural districts may be obtained at a cost of from \$12 to \$18 per month. New districts are being organized at the rate of 250 a year.

The statistics on p. 165 from the latest report of the Department of Education give an indication of educational conditions in Alberta.

The University

In December, 1910, there was called into being the University of Alberta, which has charge of higher education in the province. It is supported by the province, by direct annual grant, and by a percentage of the succession duties.

The controlling body is a Board of Governors, of whom the President and Chancellor are members by virtue of office, the other nine members being appointed by the Lieutenant-Governor in Council. This Board has, among other powers, that of appointing the president, professors, teachers, and officers of the University and of fixing salaries. It is also responsible for managing the finances of the University and for erecting buildings. It is the supreme authority in University matters, and is responsible only to the Legislature of the province. The president, as chief officer under the Board, is directing head of the University. He makes recommenda-



- | | |
|--|---|
| 1. PUBLIC SCHOOL, WEYBURN. | 2. UNIVERSITY OF SASKATCHEWAN, SASKATOON. |
| 3. KELVIN TECHNICAL HIGH SCHOOL, WINNIPEG. | 4. MANITOBA UNIVERSITY, WINNIPEG. |
| 5. MEDICAL COLLEGE WINNIPEG. | |

EDUCATION

GENERAL SUMMARY.

	1910.	1911.	
Number of school districts	1,501	1,784	
Increase for the year			283
Number of districts having schools in operation	1,195	1,392	
Increase for the year			197
Number of departments in operation	1,610	1,902	
Increase for the year			292
Number of pupils enrolled	55,307	61,660	
Increase for the year			6,353
Average attendance of pupils	29,611.45	32,556.76	
Increase for the year			2,945.31
Percentage attendance of pupils	53.45	52.08	
Decrease for the year			1.37
Average length of school year days	158.28	157.05	
Decrease for the year			1.23
Total grants paid to school districts	\$317,411.47	\$377,679.92	
Increase for the year			\$60,268.45
School debentures authorized	\$1,027,892.00	\$1,524,707.00	
Increase for the year			\$496,815.00
School debentures registered	\$742,725.00	\$1,501,560.00	
Increase for the year			\$758,835.00
Amount expended on school buildings and grounds	\$1,062,986.96	\$1,504,852.82	
Increase for the year			\$441,865.86
Amount expended for teachers' salaries	\$908,045.12	\$1,144,583.75	
Increase for the year			\$236,538.63
Paid on debentures and notes, including interest	\$1,001,206.39	\$1,717,576.11	
Increase for the year			\$716,369.72
Amount expended for all other purposes	\$390,154.86	\$1,020,555.71	
Increase for the year			\$630,400.85

tions as to all appointments and promotions, directs the actual teaching, and represents the institution before the people. To assist the president in the solution of academic problems there is a Senate, part of which is elective, being chosen by convocation, part representing the teaching force, and part holding position by virtue of office. The actual preparation of courses of study, the holding of examinations, and the like are entrusted to Faculty Councils, who act under the authority of the Senate. The graduates of the University, or those who have been registered as worthy members of the Convocation, meet annually. They discuss matters pertaining to the welfare of the University, make representations to the Board of Governors and the Senate, and appoint ten members to serve on the latter body. Provision is made for the affiliation of other educational institutions. Some of these—denominational schools—have already taken advantage of this provision.

In its practical outworking the Univer-

TEACHERS EMPLOYED, CERTIFICATES AND SALARIES.

SCHOOLS OPEN THE WHOLE YEAR.

Class of Certificate.	Number of Teachers.	Salaries per Year.		
		Highest.	Lowest.	Average.
		\$	\$	\$
First, male	163	2,000.00	600.00	1,096.74
First, female	222	1,400.00	530.00	741.66
Second, male	242	1,550.00	480.00	771.32
Second, female	860	1,020.00	500.00	697.05
Third, male	85	900.00	572.00	706.91
Third, female	108	1,200.00	450.00	661.11
Permit, male	14	900.00	480.00	636.44
Permit, female... ..	47	840.00	400.00	637.40

Town Schools.

First, male	114	2,000.00	700.00	1,230.31
First, female	144	1,400.00	600.00	745.05
Second, male	32	1,550.00	600.00	987.18
Second, female	422	1,000.00	525.00	701.00
Third, male	3	900.00	800.00	833.33
Third, female	15	800.00	600.00	695.33
Permit, male				
Permit, female... ..	1	780.00		780.00

Yearly Rural Schools.

First, male	24	900.00	600.00	749.32
First, female	53	780.00	530.00	718.47
Second, male	165	900.00	480.00	709.91
Second, female	361	840.00	500.00	684.08
Third, male	75	840.00	572.00	700.81
Third, female	85	750.00	450.00	654.05
Permit, male	14	720.00	480.00	602.72
Permit, female... ..	70	720.00	400.00	635.18

SCHOOLS OPEN PART OF YEAR.

Number of Teachers.	Salaries per Year.		
	Highest.	Lowest.	Average.
	\$	\$	\$
37	1,100.00	600.00	725.40
38	850.00	600.00	717.89
160	900.00	600.00	712.53
262	840.00	500.00	699.76
91	780.00	572.00	702.85
102	780.00	480.00	686.56
72	780.00	480.00	682.79
119	800.00	400.00	666.07

Village Schools.

25	1,200.00	700.00	894.40
25	1,050.00	600.00	771.36
45	1,200.00	600.00	843.00
77	1,020.00	600.00	735.84
7	900.00	572.00	718.14
8	750.00	600.00	671.87
3	780.00	720.00	760.00
2	630.00	600.00	615.00

In All Schools.

200	2,000.00	600.00	1,028.54
260	1,400.00	530.00	738.19
402	1,550.00	480.00	747.92
1,122	1,020.00	500.00	697.77
176	900.00	572.00	704.82
210	1,200.00	450.00	673.47
89	900.00	480.00	675.24
192	840.00	400.00	657.95

Total number of teachers employed during the year, 2,651.

Total number of teachers employed at one time, 1,902.

Altogether there were 749 schools or rooms that changed teachers during the year.

Average salary per year paid to all teachers employed, \$729.93.

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sity has established chairs in the chief departments of Arts, Science, and Literature, and on the technical side has given

special attention to agriculture. Four secondary schools devoted to agriculture have been established in various sections

of the province, and through these the University reaches many students it could not otherwise influence directly.



SASKATCHEWAN

IN Saskatchewan there is a Department of Public Service, known as the Department of Education, over which presides a member of the Executive Council, known as the Minister of Education. The Department of Education has the control and management of public and separate schools, whether kindergarden, elementary, or secondary.

The Superintendence of Education

The chief officer of the Department is the Superintendent of Education, who has the general supervision of high schools and collegiate institutes, public and separate schools, technical schools, and training schools for teachers; the granting of teachers' certificates; departmental examinations; teachers' institutes; teachers' reading courses; school libraries; and inspection.

Educational Council

A council of five members, two of whom must be Roman Catholics, advise the Department of Education on all matters of education, and all general regulations are passed upon by the Council before being adopted.

School Districts

The province is divided into municipalities, and in each of these school districts may be organized to meet the needs of the growing communities. It is a condition of the organization of a school district that there shall be ten children between the ages of five and sixteen years resident within the district. The limit to the area of any district is 20 square miles. The number of school districts now organized in the province is 2,516. New districts are coming into operation at the rate of 300 a year. The school board of any rural district consists of three trustees. In towns the number is five. In cities special arrangements as to number are permitted.

Duties of Trustees

The trustees of the various school districts are responsible for the management

of the school, the choice of the site, the erection of the building, the engaging of teachers, the purchasing of supplies, borrowing money, and sending annual reports to the Department of Education. In carrying out their duties the trustees are guided by the Department of Education.

Separate Schools

Because of the mixed population of the province, and because of the bill which gave autonomy to Saskatchewan and Alberta, a system of separate schools is provided for in the School Act. The chief clauses relating to separate schools are these:

"The minority of the ratepayers in any district, whether Protestant or Roman Catholic, may establish a separate school therein; and in such case the ratepayers, establishing such Protestant or Roman Catholic separate schools, shall be liable only to assessments of such rates as they impose upon themselves in respect thereof."

"After the establishment of a separate school district under the provisions of this Act such separate school district and the board thereof shall possess and exercise all rights, powers, privileges, and be subject to the same liabilities and methods of government as is herein provided in respect of public school districts."

Compulsory Education

Education, for at least 100 days in the year, is compulsory for all children between the ages of seven and thirteen years. In towns and villages the attendance must be for 150 days. Penalties are provided for non-compliance with this regulation. Of course, children taught privately in a satisfactory manner are excused from attendance at the public schools. In villages and towns provision is made for the appointment of truant officers to see that the compulsory education law is enforced.

Religious Instruction

Provision is made in the statute for religious instruction. The clause pertaining to this is very explicit—the instruction must be given the last half-hour of the school day. The school may be opened with the Lord's Prayer. Pupils are not forced to attend while religious instruction is being given.

Conveyance of Children

It is possible for trustees of any district to convey pupils to a neighbouring district at the public expense. This is a great convenience to parents in the districts that are not quite ready for organization.

Courses of Study

The course of study for the Province of Saskatchewan is similar to that of other provinces. Provision is made for division of schools into eight grades, and very full programmes of study are given to the teachers in each grade.

Grade I begins with reading, language, spelling, writing, drawing, music, natural history.

Grade II, arithmetic is added.

Grade IV, written composition receives more serious attention, and a beginning is made in geography and history.

Grade VII, grammar is introduced, and in the eighth grade the teaching of algebra, geometry, and agriculture begins. Throughout all the grades attention is given to the teaching of morals, physical culture, and hygiene.

In high schools and collegiate institutes the course is extended to include elementary science, modern languages, and Latin; and provision is made for agricultural and commercial courses. In the secondary schools there are four courses open to students—the general course, teachers' course, university course, and the commercial course. Most of the students in attendance enter upon either the second or third of these courses.

The Preparation of Teachers

Certificates to teach are known as third class, which are valid for two years;

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interim second and first class, which are valid for one year; and professional second and first class, which are valid for life. There are also provisional certificates which are valid for some short stated period. To obtain a third class certificate the candidate must have passed the departmental examinations for a third class diploma, or have submitted official evidence of equivalent standing. He must also have a course of training at the provincial normal school, or submit evidence of equivalent training elsewhere. To hold an interim second or first class certificate he must have passed the departmental examinations for diplomas of these grades, taking the training prescribed for second and first class teachers. To obtain a first or second professional certificate any teacher who holds an interim certificate must teach successfully for one year, and must complete the prescribed reading course. Provisional certificates are granted for the purpose of assisting schools that have been unable to obtain qualified teachers. Teachers from other provinces and other countries are welcomed to Saskatchewan, and their certificates recognized at their full value. It is necessary, however, for every teacher to present his credentials and certificates to the Department of Education at Regina before entering upon work in the schools.

There are two provincial normal schools for professional training of teachers, and local normal schools are held every year in the small centres. At the local normal schools as well as at the provincial schools training is provided for third class teachers, and at the two provincial schools alone is training given to second and first class. The course of training is very similar to that in Manitoba and Alberta. In the third class course instruction is given in pedagogy and methods, and special attention is given to some of the school arts, such as penmanship, music, drawing, manual training, physical culture. Students also do considerable practice teaching.

In the second class course the same work is continued, and additional instruction is given in psychology, history of education, and hygiene. The first class course is still more exhaustive, and includes attention to practical work and the reading of the following texts:

Horne: Philosophy of Education.

De Garmo: Principles of Secondary Education—The Studies.

Halleck: Psychology and Psychic Culture.
Monroe: History of Education—Briefer Course.

Tompkins: School Management.

Smith: Nature Study and Life.

Chubb: Teaching of English.

King Edward Music Reader, Book II.

High School Text Book of Art Education.

Worst: Constructive Work.

Shaw: School Hygiene.

Books for Preliminary Reading. First,

McMurry: Elements of General

Method. Second, Calderwood: On

Teaching—Its Ends and Means.

Inspection and Institutes

School inspection by officers of the Department of Education is very thorough. There are 15 inspectors at present in the field, and these visit the schools about twice a year. In towns and cities superintendents of schools may be appointed.

Teachers' conventions are held with the permission of the Department of Education, and attendance at such conventions does not affect the grant to the school. Teachers' institutes are arranged by the department: these are conducted by the normal teachers and other competent persons.

Provision is made in Saskatchewan for the holding of midsummer institutes for the teachers. Teachers' reading courses are arranged by the department. Every teacher who wishes to obtain a first or second class certificate must complete the course of reading prescribed for one year.

Support of Schools

Schools are supported by money provided from three sources: (a) There is a legislative grant based on the number of days school has been kept open during the year, with an additional grant to encourage the school to keep open as many days as possible. The teacher's grade of certificate is also considered in making this grant. Schools just organized receive a bonus, and small districts receive a larger grant than large ones. Parallel provision is made for payment to town schools. (b) There is a general tax on rural property from which is derived a supplementary revenue. This is divided among elementary and secondary schools and the university. (c) There is a district tax based on local assessment. As a convenience this tax is collected by the officers of the municipality. Speaking roughly, the total school tax paid by one

who owns a half-section of land varies from 25 to 32 dollars.

Important Information

As the schools are supported by local taxes and provincial aid, education is free to all resident children. Non-resident children may be charged a fee, but this is by no means prohibitive.

Instruction is given in the English language, but it is permissible for any Board to permit a primary course to be taken in the French language. Night classes may be maintained in any school district, and for these a fee may be charged. Kindergarten classes may also be established on the same conditions.

School libraries are liberally supported, a grant for this purpose being made by the department. The books are selected from a list issued by the department.

The school ground in a rural district must comprise an area of at least an acre. It must be in the centre of the district and accessible to all the children.

In villages and towns the site must be convenient and suitable. Buildings must be of ample dimensions, well constructed, properly lighted, heated, and ventilated. School furniture and equipment must be up to the standard set by the department. Provision is made for cleanliness, for water supply, for stabling. The school hours are from 9 to 12, and from 1.30 to 4 on every day except Saturday and holidays. The Board of Trustees may, with the sanction of the department, alter the school hours and the long vacation, which ordinarily is in midsummer.

The statistics on p. 168, taken from the last available report of the Department of Education, indicate present conditions in Saskatchewan.

University of Saskatchewan

On April 3, 1907, the Legislature of Saskatchewan passed the University Act. By this Act provision was made for the appointment of a Senate, Board of Governors, President, Chancellor, and such other officers and committees as were deemed necessary for carrying out satisfactorily the work of a university. The University has power to give instruction, to examine for and to grant degrees, together with the customary powers to hold and sell property. The Senate, which is entrusted with the management of academic matters, has the majority of

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GENERAL SUMMARY.

	1909.	1910.
Number of school districts organized under the School Act ...	2,003	2,255
Number of school districts having schools in operation ...	1,692	1,912
Number of departments in operation ...	1,937	2,207
Number of pupils enrolled ...	53,969	63,964
Average attendance of pupils ...	28,202.24	33,731.34
Percentage of attendance of pupils...	52.25	52.80
Average number of days in the school year ...	160.1	158.59
School debentures authorized ...	\$637,500.00	\$552,360.00
School debentures registered ...	\$610,890.00	\$558,129.80

NOTE.—The above table does not include the statistics regarding high schools and collegiate institutes.

COMPARATIVE STATEMENT OF THE SALARIES OF TEACHERS IN 1909 AND 1910.

PUBLIC AND SEPARATE SCHOOLS.

Certificates Held.	1909.				1910.			
	Town Schools.		Rural Schools.		Town Schools.		Rural Schools.	
	Number of Teachers.	Average Salary.	Number of Teachers.	Average Salary.	Number of Teachers.	Average Salary.	Number of Teachers.	Average Salary.
First Class—		\$		\$		\$		\$
Male ...	65	1,015	56	726	66	1,052	48	747
Female ...	51	715	40	686	56	730	42	703
Second Class—								
Male ...	64	799	248	776	98	835	247	727
Female ...	240	565	423	665	295	682	442	696
Third Class—								
Male ...	12	738	306	688	23	761	335	715
Female ...	34	613	348	657	47	715	432	675
Provisional ...								
Male ...	8	787	207	656	5	792	252	695
Female ...	6	638	193	645	16	651	268	680

its members appointed by Convocation. The Convocation consists of charter members of the University and graduates. The Board of Governors, of which a majority are appointed by the Senate, is responsible for the management, regulation, and administration of the property, revenue, and business of the University.

To the President and Council of the University, that is, to the Deans, Professors, and Assistant Professors, is entrusted the teaching and examination of students, the arrangement of courses of study, and all such purely scholastic matters. Under an energetic President the University has made great progress. A beautiful site of

1,200 acres was selected near the city of Saskatoon. The buildings already erected are the College, University Hall, Agricultural and Engineering Laboratory, stock pavilion, power house, barns, boarding house, and residences. The site has been laid out, and plans made for 100 years ahead.

Professors are already in charge of chairs in Latin, Greek, French, German, English, History, Philosophy, Mathematics, Physical Chemistry, Biology, Animal Husbandry and Poultry, Law, Agriculture, Engineering, Field Husbandry, Natural History, Education, Hebrew, Anthropology, Economics, and Veterinary Science. It is planned next year to make a beginning for a five-year medical course, and to co-operate more fully with the Provincial Normal School. A course in pharmacy is also under contemplation.

It will be observed from this that the University aims at liberal culture and vocational preparation. As to its teaching, it is said to be modelled somewhat after the style of the State institutions in Wisconsin and Minnesota.

The outstanding feature of the work in this University is the prominence given to agricultural education. No other department is so well equipped.

By means of institutes and visitation the University is kept in touch with agricultural effort throughout the province, and the good effect of its work is already apparent.

Last year the attendance was 242, of whom 178 attended the College of Arts and 64 the College of Agriculture.

The University is maintained by direct grant from the Legislature, and by portions of the succession duties and the supplementary revenue. Already the current expenses amount to over \$100,000 a year.



EARLY CHURCH HISTORY

THE ANGLICAN CHURCH

By R. C. JOHNSTONE, LL.D.



THE first distinctly organized Christian work in the North-West was done in the Red River Settlement, where the people were mainly of Scottish origin. They were a God-fearing people, who had been brought up by faithful pastors amid the wild glens of their native land. Lord Selkirk brought out his settlers in 1812, and in 1816 he promised these faithful people that they should have a minister from Scotland to attend to their spiritual needs in the land of their adoption. It had been arranged that a young licentiate of the Presbyterian Church should come out; but at the last moment he drew back, and they had to be contented with a lay reader, or catechist, by the name of James Sutherland, who belonged to the peculiar class known in the Highlands of Scotland as "the men." He did his best for the flock committed to his care; but such strong opposition was brought to bear against him and his work by the North-West Company, that after a few years he left the country. By reason of their early training, the settlers on the Red River were of the Presbyterian faith, but, for all that, they gave a hearty welcome to the

Reverend John West when he came among them, in 1820, as C.M.S. missionary, and Chaplain of the Hudson's Bay Company. In many respects this pioneer missionary seems to have been a very remarkable man. Although full of enthusiasm, he was yet methodical and systematic in his pastoral work, and he had ideas of church order that were far in advance of his time. It is to him that we owe the introduction of properly arranged registers for births, baptisms, and marriages. He had ever at heart the best interests of the Indians; and very soon after his arrival in the country he brought some Indian boys from York Factory to Fort Garry in his canoe. These he kept under instruction for over a year before receiving them into the Church in baptism. Very early in his first year on the Red River a log-house was turned into a school for Mr. Barbridge, who came out with Mr. West. The number of scholars soon amounted to thirty. Mr. West retained the care and education of the Indian boys as a special part of his own work. One of these Indian boys, named Henry Budd, after Mr. West's old rector in England, was sent out as a catechist and afterwards ordained. He became a very successful missionary. With the assistance of these Indian boys, Mr. West gradually arranged for his work

necessary buildings, of a somewhat primitive character, on a site near to that of the present Cathedral of St. John's. This spot has been, ever since that time, the centre from which the mission work of the North-West has radiated. About the end of 1822 there were eight Indian boys and two girls under training at St. John's. Regular church work was carried on in the Red River Settlement by this enthusiastic missionary; but, to the great loss of the Church, he returned to England in 1823. He was succeeded by the Reverend D. T. Jones, whom he met while on his journey homewards.

In the formative period of a young country it must needs be that insufficient attention is given to the preservation of historical data, and this has been very much the case in respect to the North-West. Early settlers were so much taken up with making homes for themselves and their families that they failed to realize the coming of a time when their doings, which they thought so commonplace, would possess a great deal of interest for the men and women who came after them. It is much to be regretted that so little is known of the details of the work done by Mr. West. In his diary, published many years ago, he gives many interesting statements concerning the condition of things

THE PRAIRIE PROVINCES OF CANADA

in his day. He must have been a rare enthusiast, for he tells how, on his arrival at York Factory, he held services on Sunday, and arrangements were made by the Governor for the attendance of the Hudson's Bay Company's servants. During his stay there he learned that there were a number of half-breed children growing up in ignorance and idleness, and that the same state of things existed at all the Company's posts. He formulated a system for the maintenance and education of these, and submitted his scheme, through the Governor at York Factory, to the Committee of the Company. About the beginning of the nineteenth century several schoolmasters had been sent out by the Company; but these had, after a short time, taken to fur-trading, which no doubt proved to be more lucrative.

The Reverend D. T. Jones, who succeeded Mr. West, was a very able and faithful worker. Under him St. Paul's Church and school was erected in Image Plain in 1824, now known as St. Paul's, Middlechurch. It is situated about five or six miles from the centre of Winnipeg. The church was completed and opened for divine service on January 30, 1825. It is of interest to know that in 1824 the number of Sunday-school scholars in the Red River Settlement was 169 and the number of communicants six.

In the year 1825 the Reverend William Cochrane, afterwards Archdeacon of Assiniboia, came out to be a fellow-labourer with Mr. Jones, and these two devoted men worked together for one year. Mr. Jones then went home to England for a year, and on his return St. Andrew's Church was established near the rapids, to provide services for those who lived at too great a distance from St. Paul's and St. John's. A church school was built there in 1829, and a still larger one in 1832. The large stone church of St. Andrew's still stands, a monument of Archdeacon Cochrane's boundless courage and strength. I have been told by some of the natives that he worked along with his men. When he saw their energies failing or their courage growing less he would lift the heaviest stones, or take upon himself the most arduous task. As he himself says in one of his letters, "I am obliged to be minister, clerk, schoolmaster, arbiter, peacemaker, agricultural director, and many other things to this barbarous people, and it is no sinecure." When Mr. Jones returned to the old land,

Mr. Cochrane was left single-handed to carry on the work of the four churches that were then built, and to care for their congregations. In 1839 he was joined by the Reverend W. Smithurst, and in 1840 a mission was started at Cumberland, in charge of the native catechist who as a boy had been baptized by Mr. West under the name of Henry Budd.

The first church of St. Peter's, Dynevor (near Selkirk), was built in 1839. It was constructed of logs, and stood about 25 yards south of the present one. Mr. Cochrane was the moving spirit in all. In 1843, 58 candidates for baptism awaited the arrival of the clergyman at the Indian settlement of Cumberland. The Reverend James Hunter and his wife arrived in August of that year, and in the following year the Red River Settlement had its first visit from an Anglican Bishop.

At the request of the Church Missionary Society, Bishop Mountain, of Montreal, undertook the laborious task of a journey by canoe from his eastern home to the Red River. He embarked at Lachine on the morning of May 16, 1844. His equipment was provided at the charge of the C.M.S., and the arrangements were carried out under the direction of Sir George Simpson, who was then at Lachine. A new birch-bark canoe (*canot de maître*), having fourteen paddles and being 36 ft. in length, was built for the trip. The crew, who were all picked men, were mostly experienced *voyageurs*. These, with the Bishop, his chaplain, and his man-servant, made 17 persons in all. They accomplished the journey, which was at least 1,800 miles, in 38 days. Their route was by the Ottawa and the Mattewan Rivers, La Petite Rivière, through some small lakes, across Lake Nipissing, and through the French River, into Lake Huron. They coasted the north shore of Lake Huron for 190 miles to Sault Sainte-Marie, and then they coasted the northern shore of Lake Superior to Fort William. Here the large canoe was replaced by two small ones (*canots du nord*); in these the journey was made up the river Kaministiquia, and thence by a long chain of lakes and rivers they made their way to Lake Winnipeg and up the Red River to the colony. They stopped both going and returning at ten of the Hudson's Bay forts, where they held services. The Bishop spent 18 days in the settlement, and during that time he ordained Mr. Cowley to the priesthood

and Mr. John McCallum, who had proved himself a faithful instructor in the school at St. John's, both Deacon and Priest. During his stay at Red River he confirmed 846 persons, preached 13 sermons, gave five confirmation addresses, and spoke in all the Sunday-schools. There are still some old people both at St. Paul's and St. Andrew's who have a vivid recollection of the visit of Bishop Mountain. Through his representations in England was laid the foundation of the new diocese of Rupert's Land.

The Reverend James Hunter, who laboured for eight years in the West, did splendid work among the Indians. He was an able preacher, and held in much esteem by the entire community.

The Reverend Abraham Cowley, whose name is a household word in Manitoba, came out some time in the forties, and until his death, in 1887 proved to be a missionary of more than ordinary power. Wherever he went he was beloved; his work is his best monument; to his untiring energy and whole-souled devotion we owe the splendid condition in which we find the Indian work of the diocese to-day.

In 1849 Mr. Leith, an Aberdeen gentleman, left a large bequest for the work of the Church in the North-West, where for a number of years he had been a chief factor in the service of the Hudson's Bay Company. For some time there was a great deal of discussion as to how his bequests should be administered. A decree of the Court of Chancery settled on the establishment of the Bishopric of Rupert's Land as the best way of carrying out Mr. Leith's wishes. The Hudson's Bay Company gave its co-operation to the scheme by agreeing to provide £300 a year and a suitable house and glebe for the Bishop. It may not be out of place here to explain that St. John's in these days used to be known as the Upper Church, St. Andrew's as the Lower Church, and St. Paul's as the Middle Church. The Middle Church, in Bishop Mountain's days, was of stone and was 60 feet long.

In 1842 the Venerable Archdeacon Cowley commenced what is known as Fairford Mission, on Lake Manitoba, and from that day to this it has been recognized as one of the important centres from which missionary work among the Indians has been carried on.

The first Bishop of Rupert's Land was in many respects a very remarkable man.



1. ST. PAUL'S EPISCOPAL CHURCH, REGINA.
3. FIRST PRESBYTERIAN CHURCH, EDMONTON.

2. ROMAN CATHOLIC CHURCH, REGINA.
4. FIRST BAPTIST CHURCH, CALGARY.

THE PRAIRIE PROVINCES OF CANADA

David Anderson was born in 1814, and was educated at Edinburgh Academy, where he had as one of his class-mates Archibald Campbell Tait, who was successively Bishop of London and Archbishop of Canterbury. Mr. Anderson proceeded to Exeter College, Oxford, where he graduated with honours in 1836. In 1844 he married Miss Marsden, of Liverpool, who died in 1848, leaving him with three sons. Dr. Anderson was consecrated Bishop of Rupert's Land on May 29, 1849, and almost at once he set out for his diocese, accompanied by his three sons and his sister, who was his constant companion in all his work. He arrived at York Factory, Hudson's Bay, on August 16th, and succeeded in reaching the Red River Settlement on October 23rd. On that very day died the Reverend John McCallum, leaving his educational work as a legacy to the new Bishop. I do not propose to enter into the details of Bishop Anderson's episcopacy, beyond showing that the work which he did in building up the Church of England in the North-West was of the most valuable and substantial character. At his first confirmation, in 1850, he had 400 candidates. When he came to the Red River he found only five clergy at work. In 1851 that number was increased to nine. At his primary visitation, in the same year, there was only one clergyman beyond the Rocky Mountains, stationed at Vancouver. In 1852 the Bishop travelled northward as far as James Bay; during that journey he ordained John Horden to the diaconate, and, before he left the district, advanced him to the priesthood. At the time of his fourth visitation, in 1860, he had 20 priests and one deacon at work in his vast diocese. He was very much exercised over the building of a cathedral, and collected considerable sums of money for that purpose; but he found great difficulty in getting the work done. Dr. Anderson resigned the see in 1864, and returned to England. He was much beloved in the North-West, and even at this distance of time his memory is held in the highest esteem by those old enough to remember him. His stay in this country extended over fifteen years, during which time he had seen a great change in the condition of the Church's work in the North-West. From an unorganized mission it had assumed the character of an organized diocese. New centres of Church life had been established wherever there were settlers, and a

considerable amount of work was being done among the various bands of Indians scattered over the land. Suitable places of worship were built all along the Red River Settlement, and on the Assiniboine as well. The beginnings of a cathedral establishment were made, and care was taken to see that the foundation was of the most permanent character. By this time the Church of England was making itself felt as a real power in the land.

Robert Machray, second Bishop of Rupert's Land, and the first Primate of the Church of England in Canada, was probably one of the greatest men in the annals of religious life in Canada. He was born in the county of Aberdeen, in Scotland.

At Sidney Sussex College, Cambridge, his career was one of the highest distinction. He was seventh Wrangler and later became a Fellow of his college. He had always taken interest in the work of missions, and his friends were not very much astonished when in 1865 he became a missionary bishop. Very soon after his consecration to the see of Rupert's Land he set sail for his new home. Things had altered considerably since the coming out of Bishop Anderson, and Dr. Machray made his journey by a much better route, which brought him to St. Paul in Minnesota, from which he continued his journey by Red River cart. Fourteen days were consumed by the journey from St. Paul to Winnipeg. For the ten years between 1865 and 1875 Bishop Machray was simply a diocesan Bishop over an enormous diocese, practically extending from Kenora to the Rocky Mountains. In the early days of his episcopate there was very little episcopal duty to be done in the Red River Settlement. He was fully aware of the great need that there was for better educational facilities, and so he at once set about the reorganization of St. John's College, in view of prospective immigration. The College was reopened on All Saints' Day, 1866. He spent eight weeks of his first winter in making a visitation of the Indian missions under his care, and held meetings three or four times every week, often in the open air, with a temperature below zero. The great work he had in view, during the early years of his episcopate, was his college, and he was not long before he had obtained endowments for five professorships. The missions in the new settlements and in some of the old ones were for some considerable time served from the Cathedral—the canons of the

Cathedral being at the same time the professors of the College. Dr. Machray soon saw that the growth of the work was such as to demand a subdivision of his great diocese, and accordingly Moosonee was founded as a diocese in 1873, with John Horden as its first Bishop. In the following year, Dr. John McLean, an old college friend of Dr. Machray, who had come out from Scotland and had become warden of St. John's College, was appointed the first Bishop of the newly founded diocese of Saskatchewan, and Dr. W. C. Bompas at the same time became the first Bishop of Athabasca. The Church Missionary Society had been most generous in providing the sinews of war for carrying on the Church's work in the North-West, and so it was quite reasonable that they should be consulted when any great change was about to be made in the mission work. Dr. Machray went to England in 1871, and, after consultation with the C.M.S. and with the Archbishop of Canterbury, arranged to make the four dioceses of Rupert's Land, Moosonee, Saskatchewan, and Athabasca into a provincial synod. Dr. Machray, of course, became Metropolitan. Ten years later, in 1884, the see of Assiniboia, now known as Qu'Appelle, was established, with the Hon. Dr. Anson as its first Bishop. In the same year the diocese of Mackenzie River was broken off from Athabasca. Dr. Bompas chose the Mackenzie River portion, and left Dr. Richard Young as the Bishop of Athabasca. In the year 1888 the diocese of Calgary was created, and Dr. Pinkham became its first Bishop. In 1890, the most distant part of the province of Rupert's Land was formed a diocese under the name of Selkirk, and Dr. Bompas was transferred to it, leaving Dr. Reeve as Bishop of Mackenzie River.

In a short sketch like the present it is impossible to give anything like an adequate idea of the great advance in Church work that was accomplished in a quarter of a century, mainly owing to the wonderful administrative ability of Dr. Machray. When he first landed on the banks of the Red River in 1865, he found himself the overseer of one of the largest dioceses in the world, with only a band of a score of clergy to aid him in his work. At the time of his death, in 1904, the original diocese of Rupert's Land had become an ecclesiastical province of nine dioceses; and in the portion over which he exercised

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authority as a diocesan, which was practically the province of Manitoba, he had a clergy list of nearly 100 names. A short time before the death of Archbishop Machray it was found necessary to appoint an Assistant Bishop, and the Very Reverend S. P. Matheson, Dean of the diocese, was chosen. In 1905 Dr. Matheson became Archbishop of Rupert's Land. The development of work in the diocese of Rupert's Land in the last eight years has been of the most phenomenal character. At the present time there are 132 parishes or missions in the diocese. The number of communicants has risen to a grand total of 11,727. The aggregate value of the churches in the diocese amounts to nearly \$700,000. The amount of money

raised annually in the diocese, for all purposes, was last year a little short of \$250,000. The number of clergy now at work in Manitoba totals nearly 120.

The early history of the Presbyterian Church in Western Canada must always be closely allied with the beginnings of the Church of England in the Red River valley. The Scots who came out with Lord Selkirk were of the Presbyterian faith, and had been led to believe that their faith would be safeguarded in the land of their adoption. No minister came out with them; again and again they pleaded to have one sent, again and again were their hopes doomed to disappointment. But they were not the men to allow religion to drop out of their lives, and so

for quite a number of years they attended the services of the English Church, either at St. John's or at Middlechurch. But when the Reverend John Black was sent, in 1852, by the Canadian Presbyterian Church to take up work at Kildonan, 300 men and women were found there ready and waiting to be examined for admission to communion. In a very short time a manse, schoolhouse, and church of stone were built at Kildonan, and the work grew apace. As a matter of fact, however, very little by way of extension was done for fifteen years. In so far as the North-West was concerned, everything Presbyterian was centred at Kildonan, where godly, earnest John Black was to his people both bishop and presbyter.

THE ROMAN CATHOLIC CHURCH

THE history of the Roman Catholic Church in the West commences with Father Messenger, who accompanied the Vérendryes in 1731 and was the first Christian priest to visit Rupert's Land. But he did not establish a mission, whilst a second priest who entered the country five years later was killed by the Sioux Indians not far from Lake Superior. It was not until the year 1818 that the Roman Catholic Church made its first permanent establishment in the country, when two priests, Joseph Nortent Provencher and Father Dumoulin, took up their permanent abode in the Red River Settlement and founded the celebrated St. Boniface Mission on the east bank of the Red River, about 1½ miles from Fort Garry. It is a matter for surprise that the foundation of a mission was so long delayed, but the period was not one of missionary expansion, the fiery ardour of the Jesuits having apparently spent itself for the time being and the progress of the Church having been decided by the political situation that followed the conquest of Canada. But the first church and mission house having been built, the priests with characteristic energy and self-sacrifice started their ministrations to the rough

French half-breeds and commenced their work of Christianising the surrounding Indian tribes. Father Provencher, who spent 35 years of untiring labour in the West, was made a bishop, as auxiliary to the Bishop of Quebec. In 1884 Rupert's Land was detached from Quebec and became a separate see, and later it was erected into an archbishopric under the Archbishop of St. Boniface. The growth and energy of the Roman Catholic Church are indicated by these successive changes in the status of St. Boniface. The Red River Mission was only a small part of the work undertaken by the Roman Catholic Church in Western Canada. Mission stations were soon established in the Saskatchewan Valley and were extended into the Athabasca district and down the valley of the Mackenzie. Ile à la Crosse, where Alexandre Taché laboured for so many years prior to becoming Bishop of St. Boniface in 1853, was the centre of the missionary system in this great part of Canada.

Two names stand out prominently in the history of the Roman Catholic Church in Western Canada—those of Archbishop Taché and Father Lacombe. The part

played by the Archbishop in the ecclesiastical and political history of the North-West was an extremely important one, but cannot be described in these pages. Being a Canadian by birth and connected with one of the oldest French-Canadian families, he naturally exercised great influence over his countrymen and the French half-breeds in Western Canada. Father Lacombe laboured for many years among the Crees and other Western tribes and devoted much time to the study of their languages.

The Roman Catholic Church as to-day constituted in Canada comprises what are termed the provinces of Halifax, Kingston, Montreal, Ottawa, Quebec, St. Boniface, Toronto, and Vancouver, government in ecclesiastical matters within the Prairie Provinces being centred in the cathedral city of St. Boniface. The growth of this Church in the three provinces is shown by a comparison of its strength in the years 1891, 1901, and 1911; the figures being, for 1891, Alberta, 6,034, Manitoba, 20,571, Saskatchewan, 6,974; for 1901, Alberta, 15,464, Manitoba, 35,672, Saskatchewan, 17,651; and for 1911, Alberta, 62,193, Manitoba, 73,994, Saskatchewan, 90,092.

THE PRESBYTERIAN CHURCH

IN 1871 the Presbyterian Church of Canada came to the conclusion that Manitoba needed a high school and a college,

and accordingly steps were taken to attain this end. The first buildings to be used for this purpose were erected at Kildonan.

Now that they were in a position to train men for their own work, progress was assured. At this time the official staff



1. ST. JOHN'S (ENGLISH CHURCH) CATHEDRAL, WINNIPEG.
 2. WEST DOORWAY, ST. BONIFACE CATHEDRAL, WINNIPEG. 3. METHODIST CHURCH, RED DEER, ALBERTA.

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of the Presbyterian Church in Western Canada consisted of seven ministers and one catechist, with seven points where services were held. In 1883 there were 58 ordained ministers, 22 students, four catechists, and nine elders engaged as preachers—in all 93, and these maintained services at 250 different points. The five church buildings that existed in 1871 might truly have been valued at \$14,000. In 1883 the church buildings, including Manitoba College (now in the city of Winnipeg), numbered 61, and were valued at a little less than \$300,000. In 1871 the number of families attached to the Presbyterian Church was about 200; in 1883 there were about 3,500 families.

Yet another period of 12 years and a still greater increase is noted. In 1896

the Presbyterian Church in Western Canada had grown to such dimensions that its work had to be carried on through the agency of fourteen presbyteries; there were 61 self-sustaining charges, 174 mission fields, and 818 preaching stations; the number of families had increased to 12,225, and the number of communicants to 18,400; while the contributions paid into the Church funds by the people of the West totalled \$268,530.

In a short sketch like the present it is impossible to give any details of the difficulties that had to be overcome before the Presbyterian Church was able to put herself into the substantial condition she is in to-day. The narrative of these details, if they were given, would bring in many notable names, mostly of men who were

the descendants of the original Scottish settlers on the Red River. One name must ever be closely associated with the work of the Presbyterian Church in the West—I refer, of course, to that of the Reverend Doctor James Robertson, for many years Superintendent of Missions in the North-West. Under his fostering care, and sustained and strengthened by his marvellous enthusiasm, the work has made extraordinary progress. Adding twelve years to the date of the last-named set of statistics, we find that in 1907 the number of families associated with the Presbyterian Church in the three synods of Manitoba, Saskatchewan, and Alberta was 21,940; the number of preaching places, 1,271; the number of mansees, 383; and the value of Church property, \$2,202,639.

THE METHODIST CHURCH

THE first mission fields in the Hudson's Bay Territory or Rupert's Land which were occupied by Methodist missionaries included those of Norway House, Moose Factory, Edmonton House, Lac la Pluie, and Pic River. It is said by Mr. R. B. Hill in his "History of Manitoba" that from 1840 to 1854 the English Wesleyan Missionary Society expended no less than \$44,000 in sustaining these Hudson's Bay missions. Of the early missionaries the names of many might be mentioned, for the Wesleyan Church can well regard with pride the work achieved by her sons in the evangelization of the West. Some names, however, stand out in greater prominence than others, amongst them those of

George McDougall, whose work amongst the Indians is still mentioned, and his devoted son, John McDougall. Another name that cannot be omitted from the record of Methodism in Western Canada is that of John Rogerson, who in 1854, in connection with the transfer of the missions from the London Missionary Committee to the Canadian Conference, accomplished a journey of over 1,500 miles by trading yacht and 1,100 miles in a bark canoe amidst difficulties that were to leave their mark upon him for the remainder of his life. The name of Dr. Young will also occupy a prominent position in Manitoba history as that of the man who placed the Methodist Church upon a good footing in the North-West.

In 1883 work under Methodist auspices in Manitoba and the North-West was organized into a separate Conference under the presidency of Dr. George Young. Since that year, and more especially since the Union of 1884, when the various Methodist bodies in Canada were united, the Methodist Church has rapidly increased in membership in the West. Between 1883 and 1890 the increase in membership is said to have totalled 7,000, a figure that had become 10,000 when the Conference was held at Brandon in 1890. To-day the Methodist Church numbers no less than 198,066 adherents in the Prairie Provinces, and its churches may be found in every town of any importance.

THE DOUKHOBORS

THE Doukhobors—"the spirit wrestlers"—most of whom came from the great plains of Russia, constitute one of the most interesting of the religious sects to be found in the Dominion. Fanatics some may call them, but if they carry theories to excess in practice, their extremes are all in the direction of a vigorous simplicity of religion and life. They refuse to carry arms and, to avoid the taking of any life, are strict vegetarians. The victims of a series of persecutions, mainly because of

their pacifist creed, over 400 families were banished in 1895 from the province of Tiflis, in Russia, where they resided. Of 4,000 persons thus exiled over 1,000 are said to have died within two years, and an effort, strongly supported by the late Count Leo Tolstoy, and assisted by the Society of Friends in England, was made to raise funds for their assistance. In March, 1898, permission to leave Russia was at length granted these unfortunate people by the Russian Government, and in the summer of

that year a first party, about 1,126 in number, sailed from Batum for Cyprus. As the movement for their support gained in strength a more extended journey at length became possible, and in January, 1899, a first contingent, about 4,000 strong, landed in Canada. This party was joined in the summer of the same year by the Doukhobors from Cyprus and 2,000 persons of the same faith from the Caucasus. To these immigrants the Canadian Government rendered every assistance,

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land being allotted them in the vicinity of Yorktown, Prince Albert, and Thunder Hill. Whilst small bodies have at times adopted

a nomadic life, causing trouble to the authorities, the Doukhobors as a whole have justified their description, by the

Minister of Justice in the Canadian House of Commons in 1901, as a law-abiding people.

OTHER RELIGIOUS BODIES

OF other well-known religious bodies it will perhaps suffice to say that the history of all shows an ever-widening sphere of activity and a satisfactory increase in membership. The Baptist body, which plays a prominent part in the religious life of the West, increased its strength within the Prairie Provinces from 17,667 in 1891 to 51,854 in 1911; the Congregationalists from 2,048 in 1891 to 2,455 in 1901 and 7,836 in 1911; and the Salvation Army from 484 in

1891 to 968 in 1911 and 2,690 in 1901. The following table shows the strength of these and other religious bodies according to the most recent returns:

		Mani- toba.	Saskatche- wan.	Alberta.
Jews ...	...	10,636	2,060	1,207
Lutherans...	...	32,730	56,147	43,311
Methodists	...	65,897	70,325	61,844
Mormons ...	...	181	168	9,793
Presbyterians	...	103,621	96,564	66,351
Roman Catholics	...	73,994	90,092	62,193
Salvation Army	...	1,050	558	1,082
Anglicans...	...	86,578	75,342	55,628
Baptists ...	...	13,992	18,371	19,491
Congregationalists	...	2,997	2,211	2,628
Doukhobors	...	47	8,470	45
Friends	159	466	309
Greek Church	...	31,042	24,795	18,147



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CLIMATE AND RAINFALL

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T would be somewhat difficult to overestimate the interest taken in meteorological observation and forecasts by the people of the Canadian West.

For naturally enough, since all out-door pursuits and occupations depend so much upon the weather, the actual condition of the atmosphere and the other elements which determine it are subjects in which all are concerned, and upon which nearly every one has made observations, more or less scientific, and has formulated opinions.

Not only are the reports published in the daily press eagerly scanned, but a vast amount of credence is given to the "long-distance" and analogous prophecies which emanate from less trustworthy sources. It is once again the familiar case of the never-satisfied and voracious appetite which is able to digest, or at least to swallow, anything. Certainly the reports and predictions furnished by the Dominion Meteorological Service are eminently scientific and dependable; others, however, like those in the old-fashioned almanacs, are purely guess-work and, at best, based upon an arbitrary assumption of continuity in climatic conditions. As a matter of fact, it would be far more rational and profitable to trust in the dicta of natives or early

settlers, who, from sheer necessity, have, before the advent of Government observatories, being compelled to form prognostics from all the homely signs of nature—the marsh birds seeking higher ground, the swallows and crows flying low, frogs croaking, kine crouching, and the bears beginning or concluding their hibernation period.

In treating, popularly, of the meteorology of the Prairie Provinces, it may be not inappropriate to discuss one or two of the terms used. By the *climate* of a place is meant the local atmospheric conditions which make up its average weather. It is practically determined by the temperature and moisture of the air, and these, in their turn, by the prevailing winds, which derive their heat and humidity from the regions they have traversed. Hence the science of climatology lays most stress upon those elements which are important to animal life—that is to say, upon those which, directly or indirectly, affect the growth of crops, the facilitation of industry and the conservation of health. It is merely one subdivision of the science of meteorology which not only takes account of all atmospheric phenomena, but seeks also to determine the physical causes and the relations between such phenomena. The two terms climatology and meteorology are, however, popularly classed as synonymous, and the sciences are so intimately

interdependent that, in the sequence, no attempt will be made to distinguish markedly between them.

With this understanding, the climate of the Prairie Provinces may roughly be divided into two fairly well-defined classes—the one embracing in its locale Southern Alberta and the south-west corner of Saskatchewan; the other, indigenous to the broad belt of territory comprising Manitoba and extending north-west to Edmonton and the Peace River. For the purpose of distinction, we may designate these two divisions as the Chinook and Prairie Belts respectively. There are, of course, many local divergencies and some modifications as regards precipitation in sections of each, but, year in and year out, the temperature-ranges in the two belts remain comparatively uniform throughout each.

Both climates belong to what meteorologists term the *Continental* type, and have their parallels in those of North Central Europe and Asia. Weather conditions in them are generally severe both as regards heat and the lack of it. Since each is removed some hundreds of miles from the great oceans, the ranges of annual temperature are vastly greater than those of regions subjected to the thermo-equating currents of the Pacific or Atlantic. January is usually the coldest and July the warmest month, the times of minimum and maximum heat being less retarded and therefore nearer the sol-

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stices than is the case with those of a marine climate.

At the same time, it is most reprehensible that a thoughtless tendency to exaggeration on the part of residents and an equally thoughtless failure to consider corrective concomitants by outsiders, have led to a somewhat unenviable notoriety being given to the prairie heat and cold. One is irresistibly reminded of the illusory effects of certain poems and works of fiction and the sensational advertisements of Eastern ice carnivals, which have generated in the minds of many a totally inaccurate idea of the climate of Canada in general. And so, in particular, the climate of Manitoba and the West has been, and is often, greatly traduced by the irresponsible statements of individuals and the false sensational articles in foreign journals. It is true that, sometimes, extremes of temperature obtain on the prairie that would be insupportable in localities which have different atmospheric and other conditions; and it is quite true that rational precautions against physical injury must be observed by residents of the North-West during the severe periods of the winter months. But it must also be predicated that when a temperature sinks below zero (Fahrenheit) on the prairies there is little or no wind; there is no unpleasant fog or moisture, but rather a clear, bright, bracing atmosphere, so that, out-of-doors at any rate, immigrants from maritime countries are often less inconvenienced than by the raw, damp, blustering winters of their own native lands.

The summer heat, again, is infinitely more pleasant and bearable than the muggy, hot-house variety experienced in the Eastern States during a hot spell in July or August. Owing to the almost constant prevalence of moderate breezes, there is a great deal of air movement; and so quickly does the soil radiate the solar heat that evenings are invariably cool and pleasant. Even when, as occasionally happens, the temperature rises as high as 90° in the shade, there are never any cases of sunstroke or heat-prostration in Manitoba or Saskatchewan. There the crisp, dry heat of summer is decidedly bracing and invigorating, and the inhabitants are but little sensitive to thermometric changes. Certainly, electrical disturbances are sometimes frequent and severe in appearance, and, occasionally, heavy rain will be precipitated, but these do little damage and cause little comment. In certain localities hailstorms occur, at

times, during the latter part of the summer, and are, perhaps, the most severe trial of the wheat-growing farmer. It would seem, however, that these tend to diminish both in number and severity.

A remarkable feature of the West is the general prevalence of cloudless skies, and very rarely does a day pass without some hours of bright sunshine. With a relatively low percentage of humidity, the prairie atmosphere is naturally clearer and brighter than that of a maritime province, and the evaporating power of the sun is much more powerful than in the cloudier, cooler, and more humid territories to the East and West. As a result of these and of the extreme dryness of the air, extremes of temperature are quite easily combated by healthy animal life.

The prevailing winds of both climatic belts, as is usual in most north temperature regions, are westerly; in fact, the typical wind of the prairie section is north-west; that of the Chinook, south-west. Modifications of these arise in several districts owing to local peculiarities, and velocities also vary considerably, as the subjoined statistics will show. Generally, however, in Manitoba the direction tends north or south with almost continuous moderate velocity and a number of light gales; in Saskatchewan, the westerly type begins to appear, until in Northern Alberta the most prevalent wind is due west. In Southern Alberta, and especially in districts adjacent to the Rocky Mountains, the direction is usually south-west and the velocity rarely exceeds 30 miles an hour. The force of the air movements, on the whole, is greater in places of low latitude. Hurricanes are, however, practically non-existent in the Canadian West, the one notable exception being the cyclone which visited Regina during the summer of 1912 and caused considerable damage in the business section of the city.

Precipitation is greater in Manitoba than in either Saskatchewan or Alberta, largely owing to the proximity of the Great Lakes and the lower elevation. Almost invariably, in the former province, rain will follow an easterly wind followed by a quick shift to the north-west, and the downfall, at times, will be fairly heavy. Thus, on June 25, 1901, there occurred a remarkably sharp and heavy storm, which in the course of a couple of hours almost flooded many of the principal streets of Winnipeg and was altogether too great for the capacity of the recording instruments. This, however, is

an isolated case so far as the official records show. On the other hand, it would appear that the snowfall is greater in localities near the mountains than in those to the east, where the depth on the ground rarely exceeds six inches on the level. The Prairie Belt, however, sometimes suffers from blizzards or snowstorms, accompanied by high wind and low temperature. Severe blizzards are not very common in Eastern Manitoba, two or three being the usual complement for the average winter, and the duration rarely extends beyond half a day. The most notable storm of this nature recorded at Winnipeg occurred on March 14 to 16, 1902, when relatively immense drifts of snow were formed and railroad traffic was reduced to a standstill.

In addition to the general features which have been described above, the climates of the Prairie and Chinook Belts exhibit certain well-defined divergencies of which it now becomes necessary to treat. If latitude and solar heat alone were the factors to be considered, it is evident that the average temperature of, say, Winnipeg and Medicine Hat or Lethbridge, at all times of the year, would be practically uniform, but, from geographical and other causes, there is actually a marked disparity. During the winter months there is, on the average, a higher temperature in Southern Alberta than in the northern belt of some 10° to 15°; the air movements are lighter; and the rainfall so diminished that, for agricultural purposes, it is often necessary to resort to artificial irrigation. The Chinook winds are undoubtedly the chief cause of these differences in climate. These air-currents have their origin in certain cyclones which have a northerly trend. The warm winds blowing over the Pacific from the south-west are chilled on reaching the higher and cooler mountainous districts of Western America, and the water vapour, with which they are saturated, is condensed and precipitated. With the consequent accession of latent heat, the resulting winds are dry and warm, and making their way through the Rockies, descend upon the plains of Southern Alberta and Saskatchewan. They melt with remarkable rapidity any snow that may have fallen, and so make it possible for cattle to graze in the open during the winter months, since vegetation can never be buried very deeply.

On the other hand, summer temperatures are somewhat lower in the western than in

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the eastern parts of the provinces, but, owing to the influence of humidity and wind velocity, the heat is not the less oppressive. As can be seen from the sub-joined statistics, the mean annual temperature of the two belts differs by about 5°.

Bearing these facts in mind a retrospect of a typical year in Manitoba will perhaps be sufficient to give some idea of the prairie climate as a whole.

As usual, January opened clear and cold, and, for the first fortnight, temperatures ranged well below zero. On the 11th the mercury dropped to -45°, which constituted a record for 15 years. As a matter of fact, it is only once or twice in a decade that the minimum at Winnipeg is as low as 40° below zero. On the 16th an upward tendency appeared, and, until the 29th, the weather was quite mild—thaws occurring between the 20th and 24th—but the average for the month was a little less than normal, viz., 2°. Prevailing winds were N.-NW. for the first half and SW.-SE. for the second, with numerous calms. Bright sunshine amounted to 100 hours for the month, and 6 in. of snow fell, scattered over nine days.

February's temperature averaged about zero, the first and the last two weeks being comparatively mild, while, between the 7th and 14th, "below zero" readings were constant. The minimum for the month was 34° below zero. Winds came chiefly from the north and north-west, with occasional shifts to the south, and the velocities were light. Clear days, especially during the colder period, were frequent, and there were 110 hours of bright sunshine. Scattered snowfalls gave a total precipitation of 6.7 in.

The month of March brought the break-up of winter, and there were no instances of severe weather. Thaws became general after the middle week, though the mean temperature was less than 20°. A very exceptional quantity—viz., 25 in.—of snow fell, and there were only 10 cloudless days. Moderate winds held from the west, and there were 112 hours of bright sun. Ice sports ceased after the 14th, and conditions under foot in the open became somewhat unpleasant.

April's average temperature of 30° was about 10° below normal, the maximum reading being 50° on the 17th. Cloudy skies and northerly winds were rather prevalent, and on 13 days a total of 11 in. of snow was precipitated, and yet there were 200 hours of sunshine. Crows were seen

on the 3rd, small birds on the 7th, robins on the 12th, and large numbers of wild geese flew north on the 14th. The Red River was clear of ice by the 18th.

May proved an excellent month for the agriculturist, being moderately warm (average 52°), with numerous gentle showers, and 232 hours of bright sunshine. There were no frosts after the first week, and the mercury rose as high as 82.8° on the 31st. Winds from the east were common, which fact accounts for the frequent rains, and there were three thunderstorms.

June is commonly the rainy month in the Prairie Provinces, and this was marked with alternate periods of sunshine and showers. The average temperature was 64°, precipitation 1.6 in. of rain, and 220 hours of sun. The average maximum temperature was 77°, including many of over 80° and one of 90°. No day was, however, oppressively hot.

July and August were delightful months, and averaged about 67° in temperature. While afternoons might be somewhat warm, the evenings were cool and very pleasant. Cricketers and bowlers had no difficulty in following their pastimes until 9 p.m. Precipitation amounted to 3.84 in. for July and 4.75 in. for August, but the rainfall occurred, for the most part, during the hours of darkness, as the average of 300 hours' sun would indicate. Prevailing winds were S.-SE., and velocities had a mean of 13 miles per hour.

September's average temperature was 58°, the mid-day readings being usually in the seventies and the night's about 45°. One slight frost occurred on the 24th, but, as harvesting was practically over by that date, no damage to crops could result. Four very light showers gave a total rainfall of 1.0 in., while the sun shone brightly for 220 hours.

The next month, October, opened bright and warm, one temperature of 82° being recorded on the 6th. After the second week, "below freezing" readings began to appear during the night hours, and the average temperature for the 31 days amounted to 42.5°. Winds were mostly from the north-west and, at times, fairly strong, while sunshine prevailed during 117 hours. Trees were barren of leaves by the end of the month, and most migratory birds had flown south. The first light fall of snow took place on the 8th, but there was none on the ground at the end of the month.

While there were but two readings of zero, the mean temperature for November was 25°. The river was frozen over on the 17th, and a total of 9 in. of snow was recorded in eight days. Rather light winds from the south and north-west were prevalent, while skies were somewhat more cloudy than usual.

December was decidedly cold with stormy north-west winds. The cold and warm spells alternated, with periods of about five days each, and there were many snowstorms, giving a total of 40 in. Bright sunshine, as a consequence, was effective during the remarkably small number of 38 hours.

Much the same weather conditions will prevail during an average year in Manitoba and Eastern Saskatchewan. In exposed localities, however, the force of the wind is more keenly felt by the settlers, especially during the winter months, though gales, *i.e.*, winds of over 30 miles per hour, decrease rapidly in number. Bright sunshine occurs in excess, and, as the elevation increases, the amount of precipitation becomes less. In Northern Saskatchewan very severe minimum temperatures are sometimes experienced during January and February, but these are compensated for by the absence of air movements. In the summer months there are very few electrical storms. On towards Edmonton and the Peace River district the same law of variations persists, so that, under the protective influence of the mountains, a fairly equable climate is enjoyed. To the south, at Medicine Hat and other places in the Chinook belt, the winter cold and summer heat are not so pronounced, though heavy snow falls at times in certain localities, only to succumb quickly to the evaporating influence of the dry south-west winds.

A curious theory held by the late Sir John Schultz, formerly Lieutenant-Governor of Manitoba, was that the weather of the West recurred in cycles of twenty years' period. This view was based upon observations extending over a long residence in the country, and it is noteworthy that in Winnipeg at least the lowest temperature in each decade seems almost invariably to occur in the penultimate years of such decades, *i.e.*, 1878-9, 1888-9, 1898-9, 1908-9. A very exceptional year was that of 1912, the latter half of which was remarkably cloudy and wet, and the early winter months correspondingly mild.

THE PRAIRIE PROVINCES OF CANADA

Throughout all the vast territory between the Great Lakes and the Rocky Mountains observatories have been established at intervals by the Dominion Government for the recording and reporting of meteorological data. Of these the oldest is that at St. John's College, Winnipeg, which was inaugurated in 1872 under the control of the late Archbishop Machray. All of them are well equipped with the best and most complete types of apparatus, and from each telegraphic reports are sent twice daily to the Dominion Observatory, under the directorship of Mr. R. F. Stupart, F.R.S.C., at Toronto. The forecasts prepared and issued by this central office are, of course, based upon the scientific observations of synoptic charts, &c., and statistics establish the commendable fact that from 85

to 90 per cent. of such forecasts are absolutely correct. Occasionally, as at Winnipeg, an enterprising journal will secure special reports and prognostics from the local observatory. The predictions thus given are based principally upon observations of the barograph, the anemometer, and the clouds, together with experience of known conditions usually associated with specific meteorological phenomena.

Winds of the cyclonic type are very common, and the perception and observation of them is of great assistance to the observer. For example, one will frequently find the wind set strongly in the south-east, followed by nimbus clouds and rain, at first in a drizzle and showers, then heavier and steadier. This

usually marks the passage of a cyclone to the north-east, and, after squalls and comparative calm, the wind settles in the north-west with cooler, drier, and fresher weather. The weather conditions of Northern Saskatchewan and Alberta are also apt frequently to obtain in Manitoba during the following day, but this fact is not invariable.

With regard to the subjoined tables, it is necessary to state that certain phenomena which do not depend upon instrumental observation are largely affected by the "personal equation," and may not be strictly comparative. Of such description are the percentage of cloudiness, the number of gales, thunderstorms, and aurora. On the whole, however, the statistics are accurate and reliable.

TABLE I.
SHOWING THE ANNUAL AVERAGES OF TEMPERATURE, PRECIPITATION, &C., AT VARIOUS STATIONS SINCE 1900.

Station.	Latitude N.	Longitude W.	Altitude, Feet.	Mean Temperature.	Average Maximum.	Average Minimum.	Percentage Cloudiness.	Precipitation (inches).	Wind Velocity (m.p.h.).	Average Maximum Velocity.	Prevailing Directions.	Gales.	Days of Snowfall.	Thunderstorms.	Aurora.
Banff ...	51° 10'	115° 35'	4,542	37.7	86.3	-32.0	51	20.56	3.6	35	SW.	5	71	9	4
Battleford ...	52° 41'	108° 20'	1,620	35.1	87.8	-38.6	49	15.02	8.0	39	W.-E.	21	50	10	11
Calgary ...	51° 2'	114° 2'	3,389	38.5	88.9	-30.0	50	19.74	8.4	48	NW.-W.	18	31	7	2
Edmonton ...	53° 33'	113° 30'	2,158	37.9	88.3	-32.4	54	21.45	5.1	30	NW.-W.	4	52	8	6
Fort Chipewyan...	58° 42'	111° 10'	714	27.4	85.6	-45.7	59	13.32	4.6	36	NE.-SW.	23	43	5	5
Medicine Hat ...	50° 5'	110° 37'	2,161	43.6	99.6	-31.3	50	13.50	6.5	44	W.-NW.	21	30	10	2
Minnedosa ...	50° 15'	99° 50'	1,699	35.9	91.9	-41.3	51	19.20	8.2	44	NW.	32	52	15	22
Norway House ...	53° 58'	97° 52'	720	29.4	85.7	-45.5	51	17.63	—	—	N.-S.	36	37	3	13
Prince Albert ...	53° 10'	106° 0'	1,432	33.5	90.0	-43.6	57	19.25	3.5	22	NW.	1	39	7	12
Qu'Appelle ...	50° 30'	103° 47'	2,115	36.2	91.7	-36.5	55	22.09	9.0	47	NW.	34	58	15	6
Swift Current ...	50° 20'	107° 45'	2,439	39.3	95.1	-30.6	44	16.17	9.6	41	W.-SW.	31	44	17	10
Stony Mountain...	50° 4'	97° 14'	803	35.3	90.9	-36.0	51	19.01	—	—	NW.-S.	19	40	11	5
Winnipeg ...	49° 53'	97° 7'	760	36.0	93.2	-37.1	51	20.89	13.3	57	NW.-S.	93	51	13	5

TABLE II.
SHOWING THE MEAN TEMPERATURE AT WINNIPEG, MANITOBA, FOR EACH MONTH, 1897-1912.

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean.
1897 ...	-2.0	0.9	11.1	39.7	52.9	59.1	67.8	61.5	61.2	44.4	15.1	3.6	34.6
1898 ...	3.8	5.0	16.0	38.2	53.0	60.2	65.6	62.9	55.5	37.7	19.3	4.3	35.1
1899 ...	-4.8	-7.0	3.0	36.5	50.4	62.0	67.2	63.1	52.6	42.1	34.4	9.4	34.1
1900 ...	6.1	5.1	12.3	47.0	57.2	66.2	64.8	67.3	53.5	45.7	15.8	9.0	36.6
1901 ...	-3.3	0.0	15.5	42.3	58.2	60.1	69.1	64.4	52.5	44.7	22.1	9.5	36.3
1902 ...	7.5	10.5	25.6	37.5	55.0	56.9	67.7	64.2	52.7	42.0	25.8	4.7	37.5
1903 ...	1.8	2.6	17.8	39.9	54.2	61.5	65.2	61.1	49.5	45.0	19.2	2.2	35.0
1904 ...	-2.8	-6.8	12.7	33.5	53.3	61.1	63.2	60.9	51.8	43.3	32.0	6.3	34.0
1905 ...	-3.5	1.5	23.6	38.2	50.1	58.5	65.0	65.3	58.5	38.2	26.8	11.6	36.2
1906 ...	7.5	2.2	16.2	47.0	48.8	63.5	67.2	65.1	59.1	41.6	26.6	2.6	37.3
1907 ...	-11.8	4.6	17.2	27.9	40.2	61.7	66.7	61.3	50.8	40.3	25.3	14.1	33.2
1908 ...	7.8	9.0	9.4	40.0	52.0	62.0	66.5	62.2	58.3	43.4	28.3	9.9	37.4
1909 ...	-2.5	0.0	17.0	30.0	31.4	63.5	68.0	66.9	58.0	42.5	24.8	2.5	33.5
1910 ...	5.3	-1.3	34.0	42.8	48.8	68.4	68.7	62.1	54.2	46.8	19.8	5.7	37.9
1911 ...	-9.6	6.5	23.5	41.3	55.1	65.4	64.0	63.0	52.3	43.3	17.8	12.4	36.3
1912 ...	-11.5	6.3	15.2	41.3	53.3	64.5	65.3	60.2	53.5	43.8	29.3	12.0	36.1
Mean ...	-0.8	1.8	16.9	38.9	50.9	62.2	66.4	63.2	54.6	42.8	23.9	7.5	35.7

CLIMATE AND RAINFALL

TABLE III.

SHOWING THE PRECIPITATION IN INCHES AT WINNIPEG, MANITOBA, FOR EACH MONTH, 1897-1912

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1897	0.91	0.83	1.54	1.01	1.60	2.31	5.38	1.00	0.34	1.33	0.72	0.52
1898	0.88	0.97	2.56	0.98	0.89	6.10	1.77	2.15	2.49	5.67	1.73	0.61
1899	0.71	0.84	0.36	2.17	2.20	3.68	1.96	2.40	0.91	1.85	0.55	0.11
1900	1.05	0.15	0.68	0.30	0.11	1.85	4.06	3.67	4.22	0.94	0.93	0.65
1901	0.71	0.87	0.26	1.94	0.35	10.06	3.12	1.70	3.79	0.46	0.06	0.43
1902	0.11	0.54	2.88	1.21	3.87	3.46	1.33	0.93	1.88	1.23	1.01	1.45
1903	0.28	0.10	1.08	0.54	3.40	0.49	3.05	1.93	2.70	0.69	1.25	1.02
1904	0.17	0.83	3.00	0.66	1.72	4.13	5.55	1.62	1.87	1.49	0.32	1.65
1905	0.28	0.17	1.78	0.25	3.34	4.51	4.35	1.41	1.57	1.03	0.66	0.41
1906	1.29	0.20	0.53	1.64	2.99	6.31	2.56	1.35	1.50	0.21	1.78	1.25
1907	2.07	0.27	1.11	0.99	0.87	1.55	3.95	3.93	0.69	0.40	0.72	0.18
1908	0.44	1.80	1.84	1.59	3.01	3.11	1.65	2.75	1.89	2.21	0.55	0.61
1909	0.73	0.67	2.49	1.12	1.25	1.55	3.84	4.75	0.60	0.52	0.92	3.99
1910	0.25	1.58	0.30	1.84	1.66	2.38	0.80	2.14	2.75	0.84	1.27	1.87
1911	0.45	1.81	0.28	2.57	6.38	2.27	2.96	2.33	2.43	1.84	0.59	0.59
1912	0.30	0.18	0.30	2.25	3.59	0.90	6.09	1.64	5.50	1.15	0.11	0.78

TABLE IV.

SHOWING THE NUMBER OF HOURS OF BRIGHT SUNSHINE AT WINNIPEG, 1900-1912.

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1900	104.3	144.2	179.8	305.5	311.2	306.9	295.4	226.9	157.8	130.4	81.2	71.8
1901	96.2	126.3	179.0	166.8	304.7	189.0	270.4	269.6	160.6	154.1	107.1	55.3
1902	119.8	124.6	140.8	224.8	182.8	227.0	328.7	257.6	183.9	126.5	80.2	60.0
1903	95.0	152.5	103.0	193.2	206.4	316.5	272.4	200.5	143.9	171.2	94.4	64.0
1904	95.7	130.5	134.7	211.8	282.7	216.1	287.7	276.1	127.1	82.6	118.1	55.9
1905	140.4	156.7	138.6	221.8	240.2	204.0	344.0	255.8	205.5	94.0	83.9	86.7
1906	91.2	150.0	194.4	199.7	219.8	259.9	304.8	300.9	214.6	119.3	59.0	69.9
1907	108.5	185.9	199.2	213.0	225.0	212.3	313.7	203.1	187.7	143.4	89.0	78.1
1908	98.8	101.5	111.5	216.5	216.7	217.0	243.6	241.7	205.4	81.7	62.7	56.1
1909	99.2	110.0	111.7	191.4	231.3	217.5	301.3	260.6	220.1	117.0	77.3	38.3
1910	95.6	168.4	180.7	227.0	259.0	283.8	341.3	254.0	177.8	177.6	54.1	57.8
1911	81.9	123.4	172.6	259.7	212.3	224.6	312.7	264.9	146.2	131.2	113.1	54.8
1912	113.5	121.4	199.4	201.1	211.3	280.2	178.3	160.5	113.0	136.0	66.3	31.9
Mean	103.1	138.1	156.4	217.9	238.7	242.7	292.3	244.1	172.6	128.1	83.6	62.4

TABLE V.

DATES OF FREEZING AND THAW OF THE RED RIVER AT WINNIPEG, 1897-1912.

Year.	River Clear.	River Frozen.	Year.	River Clear.	River Frozen.	Year.	River Clear.	River Frozen.	Year.	River Clear.	River Frozen.
1897	April 30	Nov. 12	1901	April 14	Nov. 5	1905	April 6	Nov. 26	1909	April 17	Nov. 16
1898	" 19	" 8	1902	" 5	" 9	1906	" 10	" 18	1910	Mar. 22	" 3
1899	" 22	Dec. 3	1903	" 17	" 14	1907	" 19	" 13	1911	April 9	Oct. 31
1900	" 16	Nov. 18	1904	" 21	" 26	1908	" 15	" 12	1912	" 11	Dec. 2



THE GARDENS, PRINCE ALBERT.

NORTHERN SASKATCHEWAN¹



It was not until the twentieth century had dawned that attention was seriously attracted to that section of Saskatchewan lying to the north of the 52nd parallel of latitude. Up to that period settlement had been more or less adjacent to the main transcontinental line of the Canadian Pacific Railway and such of its branches as were then constructed. In fact, in 1901 the population of this northern section of Saskatchewan was mainly confined to small settlements in the neighbourhood of Prince Albert and Battleford and scattered communities on the banks of the Saskatchewan River. Saskatoon, which to-day is a rapidly growing city of some 27,000 people, was then but a group of shacks and cottages occupied by less than 100 people. Prince Albert had long been the largest town, having been incorporated in 1885. In 1901 its population, however, did not

¹ For the sake of convenience the term "Northern" has been applied to that section of the province lying north of the 52nd parallel of latitude. Many towns included in this section are situated geographically nearer to the southern than to the northern provincial frontier.

exceed 1,500, while North Battleford, which now ranks as the third city in Northern Saskatchewan, was unknown. Such was the position at the dawn of an era of railway construction almost unparalleled in the history of the American continent. During the next few years the Canadian Pacific Railway extended to Saskatoon the line already running from Winnipeg to Yorkton. From Saskatoon the line was continued west through Battleford to the Alberta boundary. The Grand Trunk Pacific built a line from Winnipeg to Saskatoon, from which town it followed much the same course as the older company, passing through Battleford on its way west. The Canadian Northern constructed two lines through Northern Saskatchewan, one connecting Prince Albert with Swan River in Northern Manitoba, from whence the line ran south to Portage La Prairie and Winnipeg, while the second branched off from Dauphin in Manitoba, and, following a north-westerly course, passed some miles to the north of Saskatchewan, eventually running through North Battleford on its way to Edmonton, Alberta. Preceded by an army of homesteaders, the railways were closely followed by a host of other settlers intent on engaging in some branch of agricultural

or commercial enterprise. Town sites soon became towns, and along these main lines of travel were established scores of flourishing communities and prosperous villages.

South of Prince Albert the country consists of prairie and woodland, and is admirably adapted to mixed farming and stock raising. At present throughout the greater part of Western Canada both these important branches of agriculture are neglected to a large extent in favour of wheat growing. Stock raising, formerly an important industry, has of recent years seriously declined. In Northern Saskatchewan, however, large numbers of cattle are being raised, mainly in the "park belt" or semi-wooded area to the north of the main line of the Canadian Northern Railway. Here the land opposes certain difficulties to cultivation, and the farmer has accordingly less incentive to devote himself entirely to wheat growing. Dairy farming can be carried on profitably almost anywhere south of Prince Albert, and, together with mixed farming, is on the increase. In the west, in the Lloydminster and Battleford districts, wheat growing is more popular than in the east. Part of the Lloydminster district is wooded and well suited for stock raising near the Saskatchewan and Battle



1. LAYING SEWER PIPES IN NORTH BATTLEFORD.
3. NORTH BATTLEFORD DISTRICT.

2. MAIN STREET, NORTH BATTLEFORD.
4 & 5. TYPICAL NORTH BATTLEFORD RESIDENCES.

THE PRAIRIE PROVINCES OF CANADA

Rivers. Portions of the wooded area in the park country have been reserved by the Government in order to conserve the timber and provide game preserves. These consist of The Pines, lying to the west of Prince Albert, and The Porcupines, situated in the east between Erwood and Canora.

To the east of Prince Albert is found the Carrot River Valley. Here the land is more or less covered with scrub, poplar, willows, rose-bushes, pea-vine, &c., interspersed, however, with patches of open prairie. The soil in this division is reputed to be exceptionally rich, and many homesteads have recently been taken up. Still further east is a large wooded area containing valuable timber.

A little to the north of Prince Albert is the southern edge of a great northern forest that stretches away to the southern shore of Lake Athabasca. Much of Prince Albert's prosperity is due to this great forest, which has given rise to the establishment of a large lumber industry. Only the extreme southern portions have been explored to any extent, but from the reports of those travellers who have pushed their way north it appears that this vast area can offer not timber alone, but minerals and a soil which in many places is of great fertility. Several samples of mineral-bearing ore have been brought from the vicinity of Lac la Ronge, 200 miles north of Prince Albert, and assays showed the presence of copper and silver in good quantities. The district round Lake Athabasca also gives promise of containing immense mineral wealth. In this connection may be repeated the evidence given by Mr. J. Burr Tyrell, M.A., F.G.S., who stated to a special committee of the Geological Survey that no other place that he had visited gave better indications of the presence of minerals than a region in the vicinity of Lake Athabasca in Saskatchewan. An extensive deposit of hematite iron ore, he stated, was found on the northern shore of that lake. On Camping Island, in Reindeer Lake, veins of pyrites were found in beds of gneiss, which, on examination, disclosed a small percentage of nickel and traces of cobalt. Mr. Tyrell also remarked that the land is for the most part excellently adapted to agricultural purposes, and he saw abundant evidence of rich vegetation. A few pioneer settlers have obtained excellent results with potatoes, cabbages, turnips, cauliflowers, and all ordinary garden produce. On the south shore of Lac la Ronge

blackberries, raspberries, and gooseberries grow in profusion.

The mineral wealth of Northern Saskatchewan is not confined entirely to the great northern forest. Gold is found in small quantities in the North Saskatchewan River, a short distance above Prince Albert, and dredging operations have met with a fair measure of success. Near Duck Lake there exists a valuable deposit of pigment, the veins being of unusual width, while on the north shore of Cold Lake, some 100 miles to the north of Lloydminster, good samples of ochres have been found. The same material exists in considerable quantities near Howell. Coal, however, is very scarce, although it is the opinion of many geologists that this mineral will eventually be discovered in the country lying between the North Saskatchewan and Churchill Rivers. A few seams have been found in the Eagle Hills, south of Battleford, but apparently they are by no means extensive. At one or two places there are small salt and sulphur springs.

The timber in the northern forest consists mainly of black and white spruce, larch, and jack pine among the coniferous trees; and aspen, balsam, and white birch among the deciduous trees. The white spruce is the principal commercial tree of Saskatchewan, and is found growing to a size of as much as 30 in. in diameter at the stump. The jack pine is found on the light sandy lands, and is used mainly in the manufacture of railway ties. Despite the immense quantity of local lumber available, however, much of the building material used in Saskatchewan is still imported from British Columbia, and there would appear to be an excellent opening for the establishment of further saw-mills in the district.

In the Saskatchewan River the province has a waterway that promises to be an asset of considerable value in the near future, since it offers exceptional opportunities for the development of power, and already more than one power plant is projected on the North Saskatchewan River. A scheme has also been formed in which certain improvements are suggested, in order to make the river navigable from Edmonton, Alberta, to the northern extremity of Lake Winnipeg, thus giving direct water communication between Winnipeg and the West. Should this scheme be put into effect, Prince Albert and Saskatoon would both benefit very largely, and the disadvantages arising from

the lack of coal in the locality would be considerably reduced, since this important mineral could be brought from the Edmonton fields at comparatively small cost.

Saskatoon.—Situated on the banks of the Saskatchewan River, Saskatoon is the largest and yet the youngest city in Northern Saskatchewan, and ranks among the principal cities of Western Canada. Its growth has often been described as phenomenal, and it is certain that but few, if any, of these towns either in Canada or the United States have accomplished the same progress within so short a space of time. The origin of Saskatoon dates back to the period when the Qu'Appelle, Long Lake, and Saskatchewan Railway was first constructed, and the Hudson's Bay Company built a warehouse from which to distribute goods in the country tributary to Battleford, a town which had long been in existence. This warehouse was built on a siding which afterwards became the site of the city of Saskatoon. In 1903 a settlement of 113 people had gradually congregated at that point, and in 1904 the rambling collection of shanties was incorporated as the village of Saskatoon. From this date down to the present time the history of Saskatoon has been one of continual progress. By 1906 its population had grown to 3,011, a figure which by 1911 had increased to 18,096, and which now, in 1913, stands at about 27,000.

The growth of the town was due primarily to the extraordinary railway development that in Northern Saskatchewan marked the first decade of the twentieth century. The Canadian Pacific was the first of the three transcontinental railways to build into Saskatoon, and it was closely followed by the Canadian Northern, which in 1906 commenced the construction of its Saskatoon-Calgary line. In the same year the Grand Trunk Pacific arrived from Winnipeg. There are now seven lines leading directly into the city from various quarters, namely: north and south, Canadian Northern Railway, Regina-Prince Albert; south-west, Canadian Northern, Saskatoon-Calgary; east and west, Canadian Pacific, Winnipeg-Edmonton, and Grand Trunk Pacific, Winnipeg-Edmonton. The main transcontinental line of the Canadian Northern Railway passes through Warman, some 12 miles north of Saskatoon, while the Canadian Pacific Railway has a line from Regina to Colonsay, a

NORTHERN SASKATCHEWAN

station some 45 miles east of Saskatoon on its Winnipeg-Edmonton line.

Its isolated position so far as large towns are concerned makes Saskatoon, with its exceptional railway facilities, the distributing point for a very large area. The nearest large city is Regina, 160 miles to the south-east, while on the Grand Trunk and Canadian Northern main lines there are no cities between Saskatoon and Portage La Prairie, Manitoba, a distance of 740 miles. Consequently all the small towns lying on the railways for many miles around Saskatoon are supplied from that city, in which over 200 warehouses have been built. About 50 of the latter are stocked with agricultural implements, for which the extensive farming communities of Northern Saskatchewan constitute an ever growing demand. It is mainly to its value as a distributing point that Saskatoon owes its importance, as its manufacturing industries are comparatively insignificant. There are a few brick plants, flour-mills, woodworking factories, machine shops, foundries, and similar industries, but hitherto the town has not attracted the large manufacturer. Nevertheless, it would appear to be endowed with all the factors necessary to the success of industrial enterprises, with the possible exception of local deposits of coal. Fuel, however, can easily be obtained from other points in Saskatchewan and from Alberta. In the very near future its place will be largely taken by electricity, the Saskatchewan River, across which four bridges have been built, providing a source of almost unlimited power. Hitherto only a limited use has been made of this river, but schemes are well in hand whereby immense horsepower will be generated. An industrial league has been formed for the purpose of encouraging manufacturers to establish themselves in the town. Free sites are not offered, but the league will instead buy stock in suitable companies, paying for the same in cash.

From the resident's point of view the city has much to recommend it. The Saskatchewan River, with its wooded banks, does much to relieve the flat, uninteresting appearance that too many of the towns of Western Canada present, while the surrounding country assumes a more park-like aspect than is found further south. Moreover, the town has not been sparing in planning and laying out parks, and 388 acres have been devoted to beautifying

the city in this manner. Most of the schools are surrounded with ample playing-grounds, and all roads and boulevards are laid out on a generous scale. Idylwyld is a charming residential section of the city, planned with a lavish hand, well treed, and occupied by handsome residences surrounded by pretty and well cultivated gardens. The spacious Exhibition grounds are a popular resort, and fairs and exhibitions are held at different times throughout the year.

The city is strongly in favour of municipally-owned public utilities, and the light, water, power, sewerage systems, and hospital are all under its control. For power purposes a large modern plant has been installed in a steel and brick building of suitable proportions, and a big dam to the north of the city has been built. This plant provides an abundance of cheap power for industrial purposes and is also used to operate the electric tramway. Owing to the exceptionally rapid growth of the city many of the more outlying houses are not connected with the sewerage system, which, however, is being extended very rapidly. The suburbs which are more adjacent to the city limits are already supplied with proper drains for the disposal of sewerage. Until quite recently the water system was open to many objections, but a large gravity mechanical filtration plant was installed in 1912, by which the danger of infection from water has been practically abolished. Daily analyses are made of the water, and the work of the plant thereby considerably supplemented. The telephone, formerly owned by a company, has been taken over by the Provincial Government, and a new and thoroughly up-to-date system installed at a cost of \$250,000. The switchboard is of the latest two-wire type and has a capacity for 10,000 telephones. The arrangements for fire-fighting are equally modern and complete. Three fire halls give ready access to any part of the city, while the force consists of 39 fully trained paid men. A plentiful supply of hydrants is distributed throughout the town, the more congested parts having three to each block, while in the outlying suburbs a hydrant is situated at each corner. During 1911 nearly \$100,000 was spent in fire halls and equipment.

Saskatoon takes special pride in its schools, the buildings devoted to educational purposes being among the finest

of their kind in Canada. Seven public schools are already built, while four others are in course of construction. There is also a collegiate institute where more advanced courses may be taken when the student has attained a certain efficiency in the public schools. Saskatoon has also been chosen as the home of the University of Saskatchewan, by virtue of which it ranks as one of the leading seats of education in Canada. The University stands in its own grounds, 1,333 acres in extent. An agricultural college is connected with the University, and over 800 acres are devoted to farm purposes. The University provides a thorough training in the arts and sciences and prepares its students for any of the professions. Several ecclesiastical colleges are affiliated to the University, the governors having decided to lease sites of from 3 to 5 acres to such institutions at a purely nominal rental.

The municipal hospital has a capacity of 55 beds, but for some time it has been hard pressed to accommodate all the patients who seek admission, and a new hospital is in course of construction which will cost \$300,000. The Grey Nuns also render invaluable aid to the city by their ministrations at St. Paul's Hospital.

Scattered throughout the city are 14 churches, the architecture of the majority being of a pleasing and imposing character. All the leading denominations are represented. The Young Men's and Young Women's Christian Associations also have excellent buildings, the citizens of Saskatoon having lent these institutions their heartiest support.

Prince Albert.—Situated on the banks of the Saskatchewan River, some 90 miles north of Saskatoon, is the city of Prince Albert, one of the oldest towns in the Canadian North-West. Its history commences in 1867, when a young Presbyterian missionary established a mission on the spot where the city now stands. The Indians and half-breeds gradually settled in the vicinity, and after a short while the Hudson's Bay Company transferred its post from Fort Carlton to Prince Albert. For a long time, as time counts in Western Canada, the town was practically at a standstill, immigration, until the early eighties, being mainly confined to Manitoba, a trip further west being deemed, even at so recent a date, a somewhat adventurous proceeding. Little by little, however, the population began to grow,

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and in 1885 Prince Albert was incorporated as a town. In 1902 the population had reached 1,800, and two years later the erstwhile town attained the dignity of a city. By 1907 3,500 people had made their homes within its boundaries. From 1907 to 1911 there was a steady increase of inhabitants, who in the latter year numbered 8,000. During 1911-12, however, events moved far more rapidly, and within a period of about eighteen months over 4,000 people settled in the city, the population of which now stands at about 12,280.

The town has no doubt been retarded by the rivalry of Saskatoon, which has now left it far behind. At the same time the prospects for the future are extremely satisfactory. The country around consists of rolling prairie and park land, and few districts offer greater incentives for mixed farming. The aspect of the country appeals particularly to the British visitor, who sometimes finds the bald prairie of Southern Saskatchewan and Alberta somewhat monotonous. Apart from the agricultural value of its land, however, Prince Albert is the centre of a lumber industry that should assume very important dimensions in the future. Immediately to the north of the town commences the great northern forest that stretches away to the southern shore of Lake Athabasca and contains almost inexhaustible supplies of spruce, larch, pine, aspen, balsam, and birch. Several thousand men are already employed in the southern section of this forest, and three saw-mills in Prince Albert and its neighbourhood are actively engaged in converting the rough logs into commercial timber. There would appear to be an excellent opening for additional mills, especially in view of the developments taking place on the Saskatchewan River, by which electric energy of 15,000 horse-power will be available by the end of 1913. This is being effected by the development of La Colle Falls, which are situated 25 miles east of the city, where power plants are being installed at a cost of \$1,000,000. The authorities estimate that at the conclusion of these works they will be able to sell power at an average price of \$25 per horse-power per annum, while consumers of 200 horse-power blocks will obtain their power at \$22 per horse-power per annum. Prince Albert is also well endowed with railway facilities. The Canadian Northern Railway has three lines connecting the city with

Winnipeg. One of them passes through Regina and Saskatoon; a second runs via Melfort in the east; and the third is the company's main transcontinental line which passes through Warman, about 75 miles south of the city. Another line of the same company runs west to Shellbrook and then to North Battleford, and still another branches off at Shellbrook and travels north to the Big River, where lumbering is in progress. The Grand Trunk Pacific and the Canadian Pacific Railways are also constructing branches from their main lines into the city, while another line which will exercise considerable influence over the future of Prince Albert is the Hudson's Bay Railway, which will connect with the Canadian Northern and have its terminus at Port Nelson on Hudson's Bay. This line, it is confidently expected, will considerably augment the importance of Prince Albert as a grain and milling centre, and also as a distributing point for cargoes brought from Europe to the Hudson's Bay port.

The various public and commercial buildings of the town are extremely well built and planned, and the post office in particular would do credit to a very much larger town. The new police station is a handsome building which cost \$35,000 to erect, and the homes of several banks add much to the city's appearance. The fire brigade is essentially modern, and has been a factor in bringing the basic rate of insurance down to a low figure. A building of special interest is that devoted to publicity purposes, which is of an attractive design and was erected in the wonderfully short time of sixteen days. Within its walls are contained samples of every product grown or raised in the vicinity of Prince Albert, samples of the various soils, maps, literature, and everything that will help a prospective settler to choose his home. The city is well advanced educationally, having four public schools, a magnificent collegiate institute, and a boarding school for girls. Two hospitals minister to the sick—one, the Victoria, being managed by the city, while the Holy Family Hospital is a Catholic institution. The seven churches are well patronized, the Presbyterian, Anglican, Methodist, Roman Catholic, and Baptist denominations all being represented. The city is provided with good water, electric light, and efficient sewerage arrangements.

The street lighting is admirable, ornamental standards surmounted by clusters of five frosted globes being erected every 90 ft. along the principal avenues and streets.

North Battleford.—But a tiny settlement of five people in 1905, North Battleford has grown to be an important city of 5,000 inhabitants, and occupies third place among the cities and towns of Northern Saskatchewan. Like the majority of Western Canadian towns, it owes its progress and prosperity to the railway, being a divisional point on the main transcontinental line of the Canadian Northern. It is also served by a branch of the Grand Trunk Pacific, which runs north from Oban, a small place on that company's Winnipeg-Edmonton line. A further line, which in all probability will considerably enhance the importance of the city, is that which is being constructed by the Canadian Northern from North Battleford to the Peace River district in North-West Alberta. The town also has railway communication with Prince Albert by means of a branch line from the Canadian Northern's main route. This latter line will give the city direct communication with the Hudson's Bay line.

The surrounding country is eminently suited for mixed farming and also for wheat growing, and although the country immediately surrounding the city is well settled, there is a considerable quantity of land available for homesteads in more distant districts. The city is at present mainly dependent upon the railway pay roll and its distributing business, a large section of North-West Saskatchewan receiving its supplies from the warehouses in North Battleford. Several small industries are established in the city, and the council is endeavouring to attract others. A tract of land has been reserved as an industrial locality, and the city is prepared to offer sites to manufacturers on very generous terms. There is also a well defined wholesale district served with spur tracks. Good openings exist for all manner of industries, but especially are conditions suited for a wire fence factory, a brewery, butter and cheese factory, oatmeal and flax mills, a tannery, steam bakery, steam laundry, and linseed oil mills. The prospects for retailers are also good.

The city is strongly in favour of municipal ownership of public utilities and controls its own water, light, power, and sewerage systems. The streets are excep-



1. TWENTY-SECOND STREET, BATTLEFORD.

2. SECTION OF RAILWAY YARDS AND TOWN, HUMBOLDT.

3. POST OFFICE, HUMBOLDT.

4. COURT HOUSE AND LAND TITLES OFFICE, BATTLEFORD.

5. LOOKING UP SASKATCHEWAN FROM RIVER STREET GARDENS.

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tionally well lighted for so small a place, five-globe cluster street lamps having been installed. This system of street lighting is usually only adopted by the comparatively large cities of Western Canada. The water supply is derived from an intake well on the banks of the Saskatchewan River, the water having first filtered through a large sand bed and been cleansed of its impurities.

The city has three public schools and a large collegiate school, the latter having been built at a cost of over \$100,000, five churches and four banks, namely, the Canadian Bank of Commerce, Imperial Bank of Canada, Bank of British North America, and the Royal Bank of Canada. There are four hotels, but so many people entered the town in 1911 that the council had to erect a 40-roomed apartment house, in which new-comers were lodged while houses were being built for them. The building permits for the ten months ending October, 1912, amounted to nearly \$1,000,000—a figure which excellently portrays the rapidity with which the town grew during that year.

Mention should also be made of the Exhibition grounds, which on public holidays give pleasure to many people, and Long Lake, a place that is rapidly coming to the fore as a holiday resort. Long Lake is situated some 20 miles to the north-west of North Battleford, and is excellently endowed with facilities for boating, fishing, and other aquatic sports.

Battleford.—Battleford, a town of some 2,000 inhabitants, is situated at the confluence of the Battle and Saskatchewan Rivers, opposite the town of North Battleford. It was formerly of some political consequence, being the old capital of the North-West provinces. Upon removal of the seat of government to Regina, the town lost much of its importance, and for a time was practically at a standstill. During the past four or five years, however, it has commenced to advance once more, and is now making steady progress. A branch connects the town with the main line of the Canadian Northern Railway, while the Grand Trunk Pacific has constructed a branch from Biggar, on the Winnipeg-Edmonton line, which links Battleford with the southern lines. The town is also connected with the Canadian Northern's proposed line from North Battleford to the Peace River district, part of which has already been built, while the Grand Trunk Pacific has planned the construction of a

line running due west from Battleford. Further transportation facilities will be accorded by the projected improvements on the Saskatchewan River.

Battleford is financially in a very happy position. The council controls inside properties valued conservatively at \$350,000, and is prepared to grant free sites, power and water at cost price, and to make other generous concessions to manufacturers and wholesalers desirous of establishing themselves in the town. An important scheme is in hand for the construction of a large hydro-electric power plant, and there are excellent openings for flour and linseed oil mills, a packing plant, tannery, foundry and wood-working establishment. Deposits of clay and sand offer good material for brick and cement works. The surrounding country is well adapted to mixed farming, wheat growing, and stock raising, while poultry farming and market gardening are proving extremely profitable. Considerable stimulus has been recently given to mixed farming by the erection of a factory in Battleford for the production of sterilized milk, cream, butter, and cheese. Apart from its fertility the country is very attractive owing to its scenery. The banks of the two rivers are well wooded and the land is of that park-like variety which is so characteristic of Northern Saskatchewan. The town has been sadly deficient in certain public utilities until quite recently, but during 1912 three miles of water mains were laid down, and this figure will be doubled during 1913. Three miles of sewers will also be laid down during the present year and a sewage disposal plant installed.

Educationally the town is well equipped, having a large public school, a separate school, an excellent high school and an Indian industrial school. Among the churches four denominations are represented—Roman Catholic, Anglican, Presbyterian, and Methodist. The Bank of British North America, the Bank of Hamilton, and the Merchants Bank are all established in the town, and the three good hotels will be shortly increased to four.

Compared with other districts in Western Canada the price of farm lands is rather under than above the average. Virgin land may be had for from \$14 to \$18 per acre, and improved farms from \$18 to \$25 per acre.

Battleford has recently been chosen as the site of a provincial asylum for the insane, and a commodious building will

shortly be erected in the vicinity at a cost of over \$500,000. The town also boasts a Dominion Land Office, the Mounted Police Headquarters, and a meteorological observatory.

Humboldt.—Humboldt is a divisional point on the main line of the Canadian Northern Railway and lies about 80 miles east of Saskatoon. The town will also be connected with Melfort on the Canadian Northern's most northerly line, part of the road having already been constructed; whilst other railway schemes have been projected, none has as yet taken final shape.

The country immediately tributary to Humboldt is noted for its suitability for mixed farming. The soil mainly consists of a heavy black loam running to a depth of from 12 to 24 in. with a clay subsoil. Stock raising is an important industry and live stock is shipped from the district. While mixed farming is more popular, Humboldt is by no means unsuited for wheat growing, and nearly 2,000,000 bushels of wheat were shipped in 1912. The Board of Trade states that between 2,000 and 3,000 free homesteads are still vacant in the district. A large creamery is established in the town where farmers find a market for their milk. This establishment produces 150,000 lb. of butter per annum and was awarded first-class honours at the Winnipeg Fair of 1912.

The population of the town is 1,600. At present the town boasts neither waterworks, sewerage, nor electric light, but by-laws have been passed which will enable the town to acquire these utilities. The waterworks will be installed at a cost of \$75,000, and electric light at a cost of \$35,000. The town has two schools, while the Presbyterian, Episcopalian, and Roman Catholic denominations have their churches. The Union Bank of Canada and the Canadian Bank of Commerce are both established in the town, and two hotels provide accommodation for travellers. A hospital is being constructed at a cost of \$35,000, while other buildings in course of erection include a post office, to cost \$45,000; a city hall, fire hall, public marketplace, and masonic temple. A medicinal lake is situated near the town and is a favourite resort for people from all parts of the province.

The town controls an extensive tract of ground as an industrial section, which is

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so laid out that trackage sites are available adjoining the main line. Free sites are offered to manufacturers and wholesalers who will establish businesses in the town. Extensive deposits of clay, sand, and gravel are found in the immediate vicinity, and the Board of Trade states that openings exist for brick and cement plants, a steam laundry, a flour and grist mill, a meat packing plant, and sundry other industries.

Rosthern. Rosthern, midway between Saskatoon and Prince Albert, is the centre of an important wheat growing and mixed farming district, and has gained distinction through winning the Shaughnessy prize of \$1,000 in gold for the best wheat grown in America. This feat was accomplished by a farmer of the district in 1911, and the town has naturally received much desirable publicity as a consequence. The district consists of level, or slightly rolling prairie, dotted here and there with small groves, which give it the appearance of a huge park. The soil is a heavy black loam, varying from 10 to 21 in. in depth, mixed with a small percentage of sandy grit, and having a clay subsoil. Farm land within 3 miles of the town is valued at \$40 or \$50 an acre, but land of equal fertility can be had within 5 miles of the town for from \$25 to \$35 an acre.

The town has a population of 1,500, and its broad streets are flanked by cement pavements in the centre of the town and by plank side-walks in the less important quarters. Light is obtained by means of acetylene gas, which is sold to the residents at \$1.75 per 100 feet. Water is at present obtained from wells, but the town has the questions of waterworks and sewerage in hand and has called for estimates for these works. The municipal offices are situated in a well built town hall and an efficient fire brigade is housed in a conveniently placed fire hall. There are two public schools and a German-English Academy. The town has two hospitals, the Alexandra and the Victoria. These hospitals are not free institutions, the patients being charged for accommodation and attendance. The Bank of British North America and the Imperial Bank both have branches in the town, and the Board of Trade states that there is a good opening for a private Bank. There are no less than eight churches, representing the Anglican, Methodist, Roman Catholic, Lutheran, Presbyterian, Evangelical, Mennonite, and Swedenborgian denominations. Two hotels cater to the public,

but a restaurant would do good business. Good brick clay is found in the neighbourhood, and cheap building materials are obtained from Prince Albert. Derkson's Lake offer good facilities for bathing and fishing. The Dominion Government is operating an experimental farm in the neighbourhood, and during 1911 obtained surprisingly good results. Six elevators provide ample storage for all wheat grown in the district.

Aberdeen, with a population of 300, is on the main line of the Canadian Northern Railway, 95 miles east of North Battleford. The principal buildings consist of one school, two hotels, two churches, and one bank. Three elevators store the crops of the neighbouring farms.

Asquith is a small town of 230 people situated on the Winnipeg-Edmonton branch of the Canadian Pacific Railway and the main line of the Grand Trunk Pacific. The town lies 24 miles west of Saskatoon, and possesses one school, Anglican, Baptist, and Presbyterian churches, a branch of the Union Bank of Canada, a hotel, and four elevators.

Biggar, a town of 1,400 people, is on the Winnipeg-Edmonton lines of the Grand Trunk Pacific and Canadian Pacific Railways, some 62 miles west of Saskatoon. Amongst its more prominent buildings may be mentioned the school, the municipal hospital, the Roman Catholic, Anglican, and Methodist churches, the Canadian Bank of Commerce, and the two hotels. The town is now large enough to justify the installation of various public utilities, and the construction of waterworks is being proceeded with. There is only one elevator, which is barely sufficient to store all the grain grown in the vicinity.

Duck Lake has a population of 700, and lies on the Saskatoon-Prince Albert line of the Canadian Northern Railway, being 36 miles south of the latter place. The town contains two schools and three churches, occupied by the Anglican, Presbyterian, and Roman Catholic denominations. The commercial buildings include a branch of the Bank of British North America, two hotels and two elevators; a large flour-mill is being erected. Duck Lake is the centre of a mixed farming district, where supplies of good brick clay have been found.

Langham, a town of 600 inhabitants, is 25 miles north-west of Saskatoon, being on the Winnipeg-Edmonton line of the Canadian Northern Railway. The town

possesses as many as five churches, the Anglican, Presbyterian, and Roman Catholic denominations owning one each, while the Mennonites have two. Also to be found in Langham are a large school, two hotels, branches of the Bank of Commerce and Northern Crown Bank, and five elevators.

Lashburn, a small town containing 250 people, is on the Winnipeg-Edmonton line of the Canadian Northern Railway, 190 miles east of Edmonton. Amongst its buildings are a school, a branch of the Canadian Bank of Commerce, a hotel, and three grain elevators. In addition there are three churches, occupied by the Anglican, Presbyterian, and Methodist denominations. Despite its meagre dimensions, the town boasts a hospital, where patients are received at reasonable rates, and an electric light plant, which supplies light to the residents at a charge of \$20 per annum.

Lloydminster, with a population of 1,200, is situated on the main line of the Canadian Northern Railway, and is a frontier town on the boundary of Alberta and Saskatchewan. There are several substantial buildings within the limits of the town, the more prominent being the two schools, the three hotels, the two banks, and the five churches which have been erected by the Anglican, Presbyterian, Methodist, Baptist, and Roman Catholic denominations. Close to the station are five large elevators, which afford ample accommodation for locally grown grain. An electric power plant supplies power at 15 cents per kilowatt. The town has been chosen as the headquarters of the 22nd Saskatchewan Light Horse.

Melfort, which has a population of 1,104, stands on a tributary of the Carrot River, 63 miles east of Prince Albert, and is the point at which the Winnipeg-Prince Albert branch of the Canadian Northern Railway is joined by the Melfort-Humboldt branch of the same company. Although the town has only one school, in other respects it is well served, the Anglican, Presbyterian, and Methodist denominations having built substantial churches, while three hotels cater for the travelling public. The Bank of Commerce, Bank of Hamilton, and the Union Bank of Canada have established themselves in the town and five elevators have been erected. The town also boasts a hospital, for the use of which a small charge is made. Electric light, water, and sewerage systems are being installed.

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Radisson is a small town of 325 people, situated on the main line of the Canadian Northern Railway, 44 miles west of North Battleford. The town includes amongst its buildings a school, four churches, and four elevators.

Scott, with a population of 700, is situated on the main line of the Grand Trunk Pacific, about 105 miles west of Saskatoon. It is a progressive town and possesses waterworks, a sewerage system, an electric light plant, and a hospital. Among the more prominent buildings are the school, the Presbyterian, Anglican, and Roman Catholic churches, two hotels, and two banks. There are, in addition, three large elevators.

Unity, a small town with a population of 250, is about 120 miles west of Saskatoon, being on the main line of the Grand Trunk Pacific. A short distance to the north of the town is the Winnipeg to Edmonton branch of the Canadian Pacific Railway. The most prominent buildings include a school, a branch of the Merchants Bank of Canada, a hotel, four grain elevators, and the churches built by the Anglican, Presbyterian, and Baptist denominations. Unity also possesses a hospital which is practically self-supporting.

Vonda, with a population of 400, is situated on the main line of the Canadian Northern Railway, some 35 miles east of Saskatoon. The town includes two schools, three churches owned by the Presbyterian, Anglican, and Roman Catholic denominations, two hotels, a branch of the Bank of Commerce, and four elevators.

Warman, a town of 200 inhabitants, is situated 14 miles north of Saskatoon, and is the point of intersection of the Saskatoon-Prince Albert branch of the Canadian Northern Railway with the Winnipeg-Edmonton line of the same company. The town possesses one school, Presbyterian and Anglican churches, and two hotels. At present there is only one elevator, which is insufficient, but a second is being erected by the grain growers of the district.

Watson, with a population of about 300, is situated on the main line of the Canadian Northern Railway, about 400 miles west of Winnipeg, and 427 miles east of Edmonton. The town possesses two schools and two churches, the latter having been built by the Roman Catholic and Presbyterian denominations. Other buildings include a bank, two hotels, and two elevators.

Wilkie, a town of 1,500 inhabitants, is a divisional point on the Winnipeg-Edmonton

branch of the Canadian Pacific Railway, and is situated 100 miles west of Saskatoon. The public buildings of the town include two schools and three churches, while the more prominent commercial buildings are branches of the Imperial Bank and the Union Bank of Canada. Other buildings worthy of mention are the two hotels and the three elevators. The town has its own waterworks and electric light plant, and a detachment of the Royal North-West Mounted Police is stationed there.



ADANAC SECURITIES CORPORATION, LTD.

The Adanac Securities Corporation, Ltd., which is situated in Saskatoon, takes a considerable interest in city property and farm lands in the neighbourhood. Such matters as the purchase of agreements, loans on mortgage, investment for clients, fire, life, and accident insurance are also handled by the firm. Whilst all branches of the business show steady development, insurance matters have been particularly brisk, the turnover having been doubled within the last twelve months. The capital of the corporation stands at \$15,000. The directors are Mr. John McDougan, president; Mr. E. E. Bellamy, vice-president and secretary-treasurer; and Mr. E. M. Lawson, managing director.



AGNEW, LTD.

The general store trading in Prince Albert as Agnew, Ltd., was established in 1879 under the name of Ashdown and Agnew. In 1882 Mr. Ashdown retired and his name was dropped from the title of the business, which for the past 20 years has been conducted as a limited company, and Mr. Agnew having been joined by his two brothers, the title became Agnew Bros. & Co., Ltd. The present style was adopted in 1912, and the capital fixed at \$200,000, all of which has been paid up.

The business is conducted in a spacious store on one of the principal thoroughfares of Prince Albert and a thriving trade is done in dry goods, groceries, boots, shoes, and clothing.

Mr. F. J. Agnew occupies the position of president of the company. He came to Canada from Guernsey, of which island he is a native, in 1876, settling at Winnipeg, where he entered the service of a hardware firm. He remained there for three years before

establishing his business at Prince Albert. His brothers, Mr. A. Agnew and Mr. H. Agnew, are respectively vice-president and secretary-treasurer.



J. F. CAIRNS

The history of the large Saskatoon department store owned by Mr. J. F. Cairns dates from the time when that city numbered no more than 100 inhabitants. At that time, in 1902, there was little in the town, beyond the railway station, to suggest future development, and it is not probable that any one anticipated so rapid a growth in so short a time. The town had only one street, now known as First Avenue, and on this Mr. Cairns opened a small grocery store, displaying his wares in a one-story building measuring 20 by 32 ft. Only one assistant was then employed. In 1904 larger premises became necessary and a two-story building was acquired. Two years later the business had outgrown the new premises and a new store was erected, to which extensions were speedily made, giving it a frontage on two streets. Even this, however, did not long suffice, and in 1912 a new site was acquired and the largest commercial building in the city erected. These premises consist of five stories erected on a site measuring 100 by 150 ft., fronting on two of the principal streets of the city, and are of reinforced concrete throughout. Before deciding upon the interior fittings of the building, Mr. Cairns studied the systems adopted in the most up-to-date department stores in Europe and the United States, and ingeniously combined the best features of each. Owing to the greater space now available he has been able to extend various departments, while the interior decorations of each floor are designed so as best to harmonize with the wares for which the floor is intended. Four elevators carry visitors to the different departments, and a special conveyor runs from the basement to the fifth story.



THE CLARK REALTY COMPANY

The development of Saskatoon has no doubt been aided by many dealers in real estate, who, seeing the future growth, acquired and opened up large areas. Amongst those firms which adopted this policy of sectional development was that started by Mr. C. T. Clark in July, 1911, the

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year in which the greatest development took place. The firm commenced by offering St. Paul's Place on the west side, and the whole of the subdivision was sold within 60 days. The next section to be developed was Sterling Park, consisting of 40 acres, which were subdivided and sold in almost as short a space of time, while a third section, which was exclusively offered to the public by this firm, was Buena Vista, one of the chief industrial areas of the city.

As a general principle the firm has acted solely in the interests of the small investor, dealing only in such property as would reasonably be considered certain to yield profit to the man with limited means, and this has materially added to the number of working-men landowners in the city, where prices have sprung up by leaps and bounds. The founder of the firm was formerly engaged in real estate in the Western States, and had many years' practical experience of land surveying and valuation, which has materially assisted in the fixing of prices in the city.



THE FAWCETT HARDWARE, LTD.

This business, one of the earliest in Saskatoon, was started in 1905 by Mr. S. T. Kempthorne, and was conducted at first in partnership with Mr. Oliver. It was a result of the advent of the Barr colony, and a small frame building was sufficient for all needs at the outset, although the business was commenced before the building was completed. The firm dealt in both hardware and furniture and grew rapidly. In February, 1907, however, it received a severe set back, as a fire destroyed the whole of the stock and premises. For a time Mr. Kempthorne, who had by that time become sole proprietor, conducted the business in a very small building on what is now First Avenue, but was able to rebuild the premises in 1909, and in the following year added another building to form the present Kempthorne Block, having a frontage of 50 ft. upon the main business street of the city and a depth of 140 ft. Half of this block is devoted to the original business, which was sold to the Fawcett Company in 1912, giving it a floor space of over 12,000 sq. ft. on the ground floor and basement.

The company was capitalized at \$20,000, with Mr. T. W. Fawcett as president and Mr. S. E. Fawcett as vice-president and

manager, and deals not only in general hardware but in cutlery, cut glass, and brass goods. The firm has several sole agencies for the district, including the Yale and Turner builders' hardware supplies, the Sherwin-William paints and varnishes, and the Gurney-Oxford stoves and ranges, of which a very large stock has always to be carried to meet the heavy demands consequent on the phenomenal rate of building in the city. The firm also carries very large supplies of sporting materials of all kinds.

It may be mentioned that this was one of the first firms of hardware dealers in the West to carry glass and cutlery goods as is done in England, the former custom being to have these goods entirely in the hands of jewellers. The necessity for the change may be taken as indicative of the clearer settlement and definition of industries following on the proper development of the district and expansion of the city.



THE A. E. GARDINER MACHINE AND MOTOR COMPANY

Saskatoon has been termed the motor city of the West, for with the lack of street cars, the construction of which was only commenced in the summer of 1912, the only rapid means of transport was the motor-car. One of the first firms in the city to introduce automobiles was this company, which formerly acted solely as agents in Saskatoon for the threshing machinery manufactured by the George White Company, of London, Ontario. In 1909 the motor section was added, the firm having the sole agency for the Hudson Motor Company, the Reo Company, and the Hupmobile. In the first year only three cars were sold, but the number has increased so rapidly that in 1912 the manufacturers were unable to meet the demand.

In connection with the firm is a flourishing motor livery business both for city work and touring, and a well-equipped garage with machine shop capable of carrying out all repairs and the manufacture of all but large and patented parts. The garage has a fully-equipped store of parts and accessories, including special electric lighting systems, and the building, which is of two stories, has an underground Bowser tank with a capacity of 1,000 gallons for the storage of petrol with a second tank on the same system for the storage of lubricating oils.

A. MACDONALD COMPANY, LTD.

This firm in Saskatoon is a branch of the parent house in Winnipeg, and was opened in 1907 in a comparatively small way when the population of the city was only 3,000, and before the full railway service had been developed. The first building was constructed of wood and consisted of two stories on a site that measured 30 by 100 ft., but within a year the business had increased so largely that it was decided to erect larger and more substantial premises. The new building, which is of imposing appearance, consists of three stories and a basement on a site 50 by 120 ft., and is so constructed that additional stories can be added when required. It may be of interest to mention that the firm employs no travellers and carries on the whole of its wholesale business in Northern Saskatchewan districts entirely by the mail-order system. In this way it has built up a connection which gives a turnover exceeding \$1,000,000 a year, and which is claimed to be the largest mail-order business of its kind in Canada.

The original capital of the company was \$250,000 which has, however, been increased to \$3,000,000. The branch, which is managed by Mr. F. H. Semmens, is run entirely separately from the head office and ranks as the oldest wholesale business in the city.



F. R. MacMILLAN

The important departmental store controlled by Mr. F. R. MacMillan is known to all visitors to Saskatoon. The building, which is four stories in height, has a frontage of 100 ft. upon Twenty-first Street and 130 ft. upon Third Avenue. The main entrance, upon Third Avenue, is 25 ft. in width. In every respect the equipment provided for this store is of the most modern description. An instance of this fact is provided by the fire prevention service, which is designed on elaborate lines, in spite of the fact that the building itself is practically fireproof. In addition to two standpipes which, with an outlet on each floor, serve the building from roof to basement, an approved "sprinkler" system runs throughout every department. By this means excessive heat, such as would be caused by fire, melts the wax inserted in certain parts of the sprinkler. The released water is thrown against a



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F. R. MacMILLAN, SASKATOON.

1. STORE, 1912.

2. NEW STORE.

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circular disc, from which it is sprayed upon the fire beneath. The building is heated on the main floor by an equally ingenious process, heated air, purified in the basement, finding access to the department from beneath showcases and counters. All other floors are steam heated by means of radiators. Amongst the departments to be found in the store may be mentioned the following: Dry goods, house furnishings, ladies' ready-to-wear millinery, men's clothing, men's furnishings, boots and shoes, and groceries.

Considerable attention was devoted in the design of the building to securing as much unobstructed space as possible. The reinforced concrete of which the building is constructed lends itself to this purpose, so that in an area of 100 by 130 ft. there are but 16 columns. The equipment of the service department includes a receiving room, shipping room, two freight and two passenger elevators, a parcel chute, vacuum cleaning apparatus, and other details.

It would be difficult to over-estimate the important part played by such a store as this in the shopping life of Saskatoon. Practically every commodity likely to be required by those visiting the store may be found within it, the numerous and well-organized departments being frequently far better equipped than the isolated store devoting its entire energies to a particular class of commodity.

Mr. F. R. MacMillan, the founder of the store, spent his boyhood days in the little village of Mona Centre, Ontario. After leaving school he entered the employ of The John Macdonald Company, one of the largest and most widely known general dry goods houses in the Dominion. He remained with this firm for 13 years, the latter seven of which he acted in the capacity of travelling representative for Western Canada, achieving signal success. Severing his connection with The John Macdonald Company in 1907, he entered into partnership with C. D. Michner in the furnishings and clothing business in the thriving and bustling city of Saskatoon. The rapid growth and success of this, his first venture, soon led Mr. MacMillan and his partner to acquire and operate three branch stores in the same city. On September 1, 1911, Mr. Macmillan purchased his present business from Messrs. Currie Bros., and on August 1, 1912, relinquished his other interests to give his

whole time and attention to this new enterprise. Since then he has built up a business which is not only the most prominent in Saskatoon but is known throughout Saskatchewan.



MANVILLE HARDWARE COMPANY, LTD.

The Manville Hardware Company, Ltd., Prince Albert, Saskatchewan, is the largest hardware, plumbing, steam-fitting, tin-smithing, and builders' supply concern in the city. Its premises occupy a considerable floor area, and all the best manufactured goods of the Eastern provinces, Great Britain, and America are stocked. Well-equipped branches are established in Shelbrook and district, and the business is still expanding. A considerable amount of material is used by the outside workmen of the company, as private and public work is freely contracted for. The builders' supply department, coincident with the rapid growth of the city, is giving satisfactory results. The company is well situated for a large trade, Prince Albert, besides being the terminal of three lines of railway, having the advantage of a service of river boats; such facilities of transit mean, naturally, a wider market for its manufactures.

The genesis of the business was a small store opened by Mr. B. Manville in 1887. In 1903 the company was incorporated under its present title with a fully paid-up capital of \$150,000. The directorate consists of Mr. O. B. Manville, president; Mr. R. J. Manville, vice-president; and Mr. A. J. Manville, secretary-treasurer.



ROYAL REALTY COMPANY

This firm was actually started in Saskatoon in 1911, although the founder, Mr. R. M. Bottomley, had been a frequent visitor to that city from England in previous years, and had not only acquired extensive property but had erected the Bottomley and Copeland Blocks. On the foundation of the firm, which also includes Mr. W. D. Cowie and Mr. T. H. Wiggins, the Royal Block was built. A portion of this block serves as the home of the business, while part is rented to various tenants. Since its birth, the firm has subdivided five quarter-sections, of which four are within the city limits and the other adjoins the boundary. Mount Royal, Mount Royal Annex, and Highbury

Park have a beautiful situation on the west side of the city. Broadway Addition is on the south side, and Bottomley Addition looks over the land of the Government Experimental Farm and Park, and is thus assured a permanent open aspect. These properties have rapidly progressed in value since their sale.



SASKATCHEWAN INVESTMENT AND TRUST COMPANY

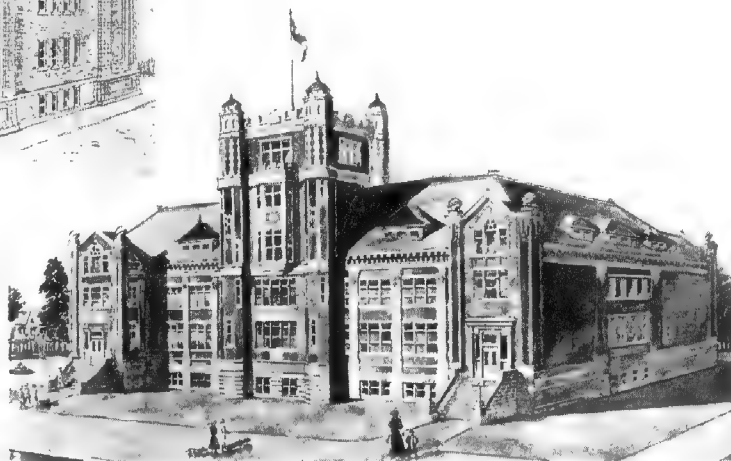
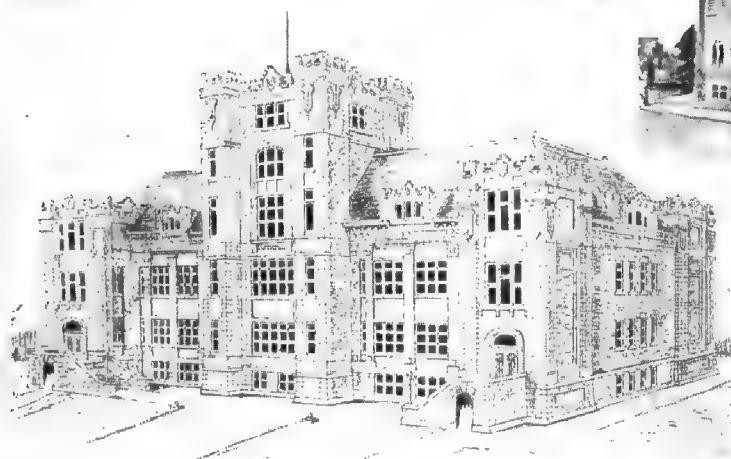
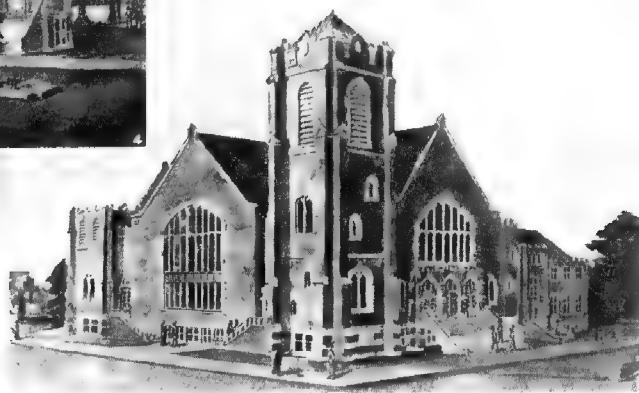
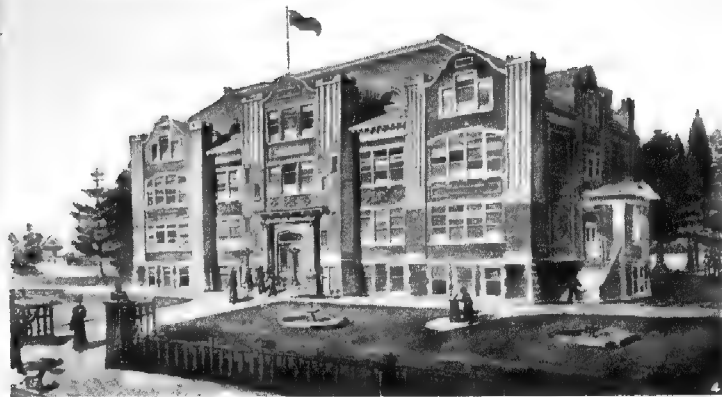
The Saskatchewan Investment and Trust Company was founded in 1910 by Mr. N. Gardner Boggs with a capital of \$200,000, of which \$150,000 is paid up. A close connection is maintained with British investors, as is shown by the composition of the board of directors. The president is the Hon. Edward Coke, and the vice-president is Mr. Boggs, while other directors are Lord Clanwilliam, Mr. Denys E. Stephenson, the Hon. Charles Littleton, Mr. A. J. Adamson, Mr. C. Keith Morris and Mr. J. G. Turriff, with Mr. W. H. Clare as manager and secretary.

In addition to ordinary trust business the charter of the company enables it to carry out investment in land, and it has not only paid a dividend of 8 per cent. since its formation, but in its short existence up to July, 1911, had created a reserve fund of \$25,000. The head office of the company is in Saskatoon, while an office is also maintained in London, a very large part of the business being transacted, as has been said, on behalf of English and Scotch investors. The company is the sole agent in Canada for the Anglo-Canadian Lands Company, and handles about 130,000 acres for it, while as trustee it is also in control of other large sections of developed and undeveloped farm lands.



THE SASKATOON PIANO COMPANY, LTD.

Founded in 1906 as the Saskatoon Piano and Organ Company, with the Hon. C. W. Sutherland as president, and Mr. F. Eugen as vice-president, the business was transferred to the present proprietors in 1909, the new company having been formed by Mr. Edward F. Crawford, the managing director, with a capital of \$50,000. The business was the first of its kind in the city, then a very small place, and has grown with the needs of the town. Originally it possessed no showrooms, and all stock had to be kept in a barn out on the prairie.



DAVID WEBSTER, SASKATOON : BUILDINGS OF WHICH MR. WEBSTER WAS ARCHITECT.

1. GRACE METHODIST CHURCH, NUTANA, SASKATOON. 2. WESTMOUNT SCHOOL, SASKATOON.
3. BLAIN AND McMILLAN OFFICE BUILDING, THIRD AVENUE, SASKATOON. 4. NORTH BATTLEFORD COLLEGIATE SCHOOL. 5. KING GEORGE SCHOOL SASKATOON

NORTHERN SASKATCHEWAN

When the business was taken over by the present company, however, large premises were taken and the firm has now ample accommodation for carrying and displaying a stock of 200 pianos and about 100 organs, together with various accessories such as piano-players. The talking-machine room, which is specially fitted up in the basement, carries a stock of 5,000 records.

The advancement of Saskatoon and the surrounding district, in matters other than population, is clearly shown by the increasing demands which have been made upon this firm, which has found it necessary to appoint 50 travellers and agencies during the last three years, not only for pianos and organs, but for the large supplies of smaller musical instruments which are imported from England and the Continent.

The firm is, in some measure, an offshoot of the Bell Piano Company, of Guelph, Ontario, and Mr. J. Brown of that company is president, with Mr. David Allen as secretary-treasurer and Mr. J. Kennedy as vice-president.



THE SASKATOON TENT AND MATTRESS COMPANY, LTD.

Few businesses in Saskatoon reflect so clearly, in their growth, the development of the city and its district as does this business, which started operations in the smallest way in 1906. The rapid increases in the size of the buildings required alone shows the growth of the business. At first a small one-story building measuring 20 by 70 ft. was ample, the work being confined to the making of mattresses. The first building was opened in October, 1906, and during the winter the premises were doubled, while in the following year another story was added. By this time the scope of manufacture had been enlarged to include the making of tents and awnings and woven wire springs. In 1908 fresh premises were erected with three stories and a basement, giving a floor space of 21,000 sq. ft., and with the increase of accommodation new machinery was added to carry out all the stages of manufacture, while iron beds and cotton and down quilts were also added to the list of products. In May, 1912, a new building was commenced, consisting of three stories and a basement. It is noteworthy that for this building sufficient land was acquired and the plans so divided that the premises can be doubled without

interfering with the work in the factory. The new factory also possesses a private spur line from the Canadian Pacific Railway to facilitate the handling of goods.

The building, which is of brick, includes a foundry, which completes the factory, making it productive of every item which it handles, and the transfer was made the occasion of installing the latest machinery, one of the additions being a four-arm cotton quilt maker, capable of turning out one quilt in every two minutes. The power throughout is electricity used in group drives, and the floors are connected by an electric lift in the centre of the building.

It is interesting to note the increased cost and other developments of the buildings and labour of the company. At its start the premises cost \$800 and three hands were employed. The first brick building erected in 1908 cost \$12,000, and the last building cost \$80,000. The company also owns a distributing warehouse and showroom in Regina, where a permanent brick building has been erected, and is thus in a position to feed the whole of its district, which stretches throughout Saskatchewan and Alberta. The company is controlled by Mr. P. D. Ives, who started it and has carried it to its present state of success.



D. WEBSTER

Since it first commenced to become a town of importance, Saskatoon has always been noted for its educational buildings, which would do credit to a town with a far greater population, and it is interesting to note that the design and construction of several of them have been entrusted to Mr. Webster. The first contract of this nature undertaken by Mr. Webster was an addition to the Alexandra School, upon which the School Board spent \$24,000, a sum then thought to be very generous. It was soon evident, however, that far greater amounts would be required to supply adequate schools, and in 1910 Mr. Webster was asked to erect the Caswell School at a cost of \$50,000. This was followed a year later by the Albert and King Edward Schools, two fine structures which cost the town no less than \$100,000 each, and the Princes School, a smaller building, erected at a cost of \$65,000. In 1912, still following a progressive policy, the council decided on the erection of the Westmount, New King George, and the Sutherland Schools, all of which were

entrusted to Mr. Webster, whose contracts amounted to \$158,000, \$160,000, and \$115,000 respectively. At the same time he undertook the erection of schools for the corporations of Kindersley, North Battleford, and Wilkie. His list of contracts is a record of remarkable achievement. In 1908 he received contracts amounting to \$75,000; in 1909 to twice that figure; in 1910 they had reached \$500,000; in 1911 they amounted to \$750,000; and in 1912, the year of writing, he has contracts on hand that reach no less a figure than \$1,500,000. Among the buildings upon which he is now engaged is a large apartment block, an automobile factory which is to cover an area of 75,000 sq. ft., a large office block, a store and office buildings, residences in all parts of the city, and a spacious curling rink which is to have no less than 11 sheets of ice. Mr. Webster emigrated to Canada from Glasgow in 1902.



THE C. H. WENTY LUMBER COMPANY, LTD.

Originally started in Saskatoon in 1903 as Robert McIntosh & Co., this business was acquired in 1906 by Mr. C. H. Wenty and Mr. K. B. Birkeland, when it bore their names. In 1909, however, the business was transferred to Mr. Wenty and the name was changed to that which it bears at present, excepting that the company was not incorporated until 1912.

The premises first occupied were somewhat confined, and in 1907 larger premises had to be acquired, giving an area of about 50,000 sq. ft., with offices consisting of about 800 sq. ft. on an adjoining street. In 1912 a further addition became imperative and a new yard was purchased and fitted up on First Avenue with an area of over 85,000 sq. ft., fed by a private railway track capable of holding 24 cars for the unloading of lumber from British Columbia and the Prince Albert district. The new yard is equipped with the latest labour-saving devices, economy and rapidity in working being essential to the business, the output of which has exceeded 8,000,000 ft. a year.

Since its commencement, especially in later years, the firm has secured large contracts in connection with buildings in the city, a very large part of the material for the university building having been drawn from these yards.



HEADGATES, C.P.R. IRRIGATION CANAL, NEAR CALGARY, ALBERTA.

IRRIGATION WORKS

By A. S. DAWSON, CHIEF ENGINEER, DEPARTMENT OF NATURAL RESOURCES, CANADIAN PACIFIC RAILWAY



IRRIGATION in Southern Alberta may be said to date from 1892, when a series of dry years turned the attention of the settlers to the possibility of aiding the growth of their crops by the artificial application of water. The question subsequently assumed such importance as to warrant its being taken up by the Government. This resulted in the passing of well-considered and comprehensive laws relating to the use of water for irrigation; in a system of general surveys, undertaken to determine the source and value of available supplies; and in the location of areas upon which such water could be used to the best advantage.

These surveys showed that three extensive areas offered peculiar advantages for irrigation; one containing some 150,000 acres, situated in the Lethbridge district, which could be supplied from the St. Mary's River; a second, containing about 350,000 acres, lying near the junction of the Bow and Belly Rivers, in townships 11 to 14 inclusive, ranges 11 to 16 inclusive; and a third, a much larger one, situated along the main line of the Canadian Pacific Railway, and extending about 150 miles

east of the city of Calgary. It is interesting to note that works to serve all of these tracts have either been built or are now under construction.

Lethbridge Section.—The second mentioned project referred to, and generally known as the Alberta Railway and Irrigation Company's system, was acquired by the Canadian Pacific Railway Company in the spring of 1912 and is now being operated by the last-mentioned company.

The headgates and diversion works are located on the St. Mary's River near the north-east corner of township 1, range 25, west of the 4th meridian, and about 50 miles south-west of Lethbridge. Construction of the system was commenced in 1898, and the main canal has been enlarged to carry about 800 cub. ft. per second. The mileage of canals and ditches operated by the company is about 200.

The lands served by the system are mostly tributary to the railway lines between Lethbridge and Magrath and Lethbridge and Chin.

The third mentioned project, which is also now in the hands of the Canadian Pacific Railway Company, is known as the Bow Valley Irrigation Block.

The Bow River heads in the Bow Lakes on the eastern slope of the Rocky Mountains; and with its tributaries has a

drainage area of about 3,800 sq. miles at Calgary, and about 5,100 sq. miles at Bassano. It generally reaches its highest stages between June 15th and August 15th of each year, and its lowest stages during January and February. Its maximum flood discharge at Calgary has probably been close to 100,000 ft. per second, although the hydrographic records for both extreme high- and low-water are rather meagre.

The block is an open prairie plateau with a general elevation of about 3,350 ft. above sea-level at its westerly limits, sloping gradually until a general elevation of about 2,300 is reached at its easterly boundary. Its topography is rolling, particularly in the western portion; whereas large areas of almost level plains are found in its easterly limits. The soil is good, consisting of a heavy black loam and clay subsoil in the westerly portions and a lighter sandy loam of great depth overlying clay and hard pan in its easterly limits.

It is bounded on the west by the 5th meridian; on the south by the Bow River; on the east by the line between ranges 10 and 11, west of the 4th meridian; and on the north by the Red Deer River and the north boundary of township 28. Its length east and west is about 140 miles, and it has an average width north and south of about 40 miles.

IRRIGATION WORKS

It is intersected by the main line of the railway company, and numerous other railway facilities are being provided in various directions. It contains an area of 4,840 sq. miles, or 3,097,580 acres.

The precipitation varies considerably from year to year, and decreases easterly as the altitude becomes lower. Meteorological records only exist subsequent to 1886, and are only applicable to the westerly portion of the block. The average annual rainfall at Calgary between 1886 and 1910 was 15.15 in.; the minimum for the same period being 5.90 in. in 1889, and the maximum for that period 31.90 in. in 1902. The average for the irrigation period of five months, from May 1st to October 1st, covering the same years, was about 11 in.

This moisture, however, is not always available when most needed; and it is a recognized fact that without irrigation certain crops cannot be raised to advantage, and that in any year the certainty of crop production with large yield can only be assured by artificial means.

Surveys in connection with the project were commenced by the railway company in 1903, and have been gradually extended in detail since that date. This represented a vast amount of work, as an irrigation project demands surveys and examinations far more complete than those for a railway line. Elevation is the controlling feature, and lateral extent or width of country is as important as length; and width, length, and height have all to be considered.

Accurate topographical surveys have been carried on by plane-table methods over practically the whole block, on which the complete system has been projected.

On the completion of the preliminary surveys it became evident that the block naturally divided itself into three sections—which were designated as the Western, Eastern, and Central—of about 1,000,000 acres each; and the work is being carried on along the lines of development in the order named. The Western and Eastern sections are complete units in themselves, whereas the Central section, owing to its general elevation, could only be served by an enlargement of a portion of the trunk lines in the Western section.

Western Section.—The Western section is composed of 1,039,620 acres, of which 370,000 acres have been brought under irrigation.

The water for the irrigation of the Western section is diverted from the Bow River at a point about 2 miles below the city of Calgary. From thence it is carried south and east through a main canal 17 miles in length, which in part is 60 ft. wide on the bottom, 120 ft. wide at the water-line, and designed to carry water to a depth of 10 ft. The larger portion of this canal, however, is 44 ft. bed width and 84 feet on the water-line.

This main canal delivers water to a reservoir, for which a natural depression has been utilized, and where, by the erection of a large earth dam, a body of water 3 miles long, $\frac{1}{2}$ mile wide, and 40 ft. in depth has been created. Just before reaching this reservoir the main canal makes a vertical drop of 10 ft.

From the reservoir referred to, the water is taken out in three secondary canals, "A," "B," and "C," and carried to the different districts to be irrigated. These secondary canals have a combined length of about 250 miles, and are the following sizes at their westerly ends:

Secondary canal "A," 18 ft. bed width, carrying 8 ft. of water.

Secondary canal "B," 28 ft. bed width, carrying 6 ft. of water.

Secondary canal "C," 40 ft. bed width, carrying 6 ft. of water.

From these secondary canals the water is again distributed in each irrigation district through a comprehensive system of distributing ditches, which bring the water to each parcel of land.

In the Western section of the block the following mileage of waterways has been constructed:

Main canal	...	...	17 miles
Secondary canals	...	...	254 "
Distributing ditches	...	...	1,329 "
Total	...	...	1,600 "

In addition to the above, there are several hundred miles of small ditches constructed by the farmers to distribute the water over their farms.

The structures, consisting of headgates, spillways, drops, flumes, bridges, weirs, &c., are numbered in thousands, and in their construction 10,000,000 ft. B.M. of timber and 10,000 cub. yards of reinforced concrete were used.

In completing the canal system of the Western section, 10,000,000 cub. yards of material were excavated.

Of its total area, both irrigable and non-irrigable, less than 5 per cent. remains unsold.

Eastern Section.—The Eastern section of the block is composed of 1,156,224 acres, of which 440,000 have been rendered irrigable. Most of this land is of a gently rolling character, and susceptible of good drainage.

This system is an entirely independent one from the Western and Central section systems, having an independent intake located about 3 miles southwest of Bassano, a point on the main line of the Canadian Pacific Railway, 83 miles east of Calgary.

This system takes advantage of a low pass through the rim of the Bow Valley at Horseshoe Bend to take water from the river by an independent intake at that point. A dam built across the river at this point performs two functions. First, it raises the level of the water at the intake, thus enabling the system to command a much larger area of land than it would otherwise do, and secondly, it reduces the quantity of material to be removed from the main canal heading at the dam.

This structure is built on the Bow River at a point locally known as Horseshoe Bend, distant about 3 miles southwest of Bassano. At this point the ordinary low-water level is elevation 2515.00. The elevation of the sills of the canal headgates is 2549.63. It was desired to raise the water to give a depth of 11 ft. above these sills, making normal water-level at the dam 2560.63.

The dam is a composite structure, consisting of a long and high earthen embankment on the south bank of the river and a reinforced concrete spillway in the existing river channel, connected at its northerly end with the canal headgates.

Just above the site of the dam the river makes a long bend in the shape of a horse-shoe, which gives the locality its name. The dam is situated at the toe of the horse-shoe. At this point the river is approximately 600 ft. wide. The north or left bank of the river has a narrow beach immediately at the water's edge and only a few feet above it, beyond which is a cut bank rising over 100 ft. above the bed of the stream.

The south or right bank has a gravel beach rising gradually until it forms a tongue between the two legs of the horse-shoe. This tongue has a broad flat top

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1. HEADGATES, MAIN CANAL, WESTERN SECTION, C.P.R. IRRIGATION BLOCK, NEAR CALGARY, ALBERTA.
2. DIGGING THE MAIN CANAL IN THE C.P.R. IRRIGATION SYSTEM, NEAR BASSANO, ALBERTA.
3. LETHBRIDGE SECTION, C.P.R. IRRIGATION SYSTEM, NEAR KIMBALL, ALBERTA.
4. HEADWORKS IN COURSE OF CONSTRUCTION, EASTERN SECTION, C.P.R. IRRIGATION BLOCK, NEAR BASSANO, ALBERTA.

IRRIGATION WORKS

several hundred feet in width, and rises gradually to the general prairie elevation. The general elevation of the surface of this tongue near the river is about 25 ft. above the bed of the stream.

On this tongue an earth dam has been constructed, to which the spillway structure is joined.

The earthen embankment has a maximum height of about 45 ft., a total length of about 7,000 ft., and at its highest point is 350 ft. in width at the base. It contains about 1,000,000 cub. yards.

which required a free length of weir of about 600 ft. To allow for end contraction on account of the piers necessary to support the movable crest, an aggregate length of 650 ft. between the piers was decided on.

As the crest of the dam and the sills of the canal headgates were fixed at elevation 2549'63, the additional depth of 11 ft. for which the canal was designed had to be maintained by some form of movable crest for the entire length of the spillway, in order to pass extreme floods. This

the bed of the stream with suitable cut-off walls at its upstream and downstream edges, and upon this floor are erected parallel buttresses of substantially triangular outline, having a slope on the upstream edge of about 45 degrees. Upon brackets or haunches projecting from the faces of the buttresses, and parallel to the upstream edges, are cast concrete slabs to form a deck, terminating at the top of the buttresses in the form of an apron, suitably curved to correspond as nearly as possible to the path of the over-fall flood waters.



1. A SMALL CANAL, C.P.R. IRRIGATION WORKS IN ALBERTA.

2. ST. ANDREW'S LOCKS, NEAR WINNIPEG.

The wetted slope is 4 to 1, the dry slope 3 to 1, and the top width 32 ft., with a free-board of 9 ft. above normal water-level. Provision has been made for under drainage, and its upper slope is paved with concrete slabs.

The foundation of the earth portion consists of a deposit of river silt over coarse gravel and boulders, which in turn overlies dense blue clay.

The spillway was designed to pass over its crest 100,000 ft. per second without raising the surface of the pool above elevation 2562'63 or 13 ft. over the crest,

movable crest is divided into 24 sections and supported between piers giving 27 ft. clear spans. These openings will be regulated by structural steel gates.

In the determination of the spacing of the buttresses, due consideration was given to such questions as the cost of construction, the time required to build the structure, and the limitations in length of the gates corresponding to the spacing of the buttresses.

The spillway proper is a reinforced concrete structure of the so-called Ambursen type, consisting of a heavy floor built upon

In front of the dam the floor is carried downstream a distance of about 90 ft., forming a tumbling hearth.

In general the cross-section of the spillway is what is known as the ogee section, the downstream face of the dam being constructed in the form of a reverse curve, between the crest and the floor, the lower edge of this curve being tangential to the floor of the structure.

The spillway is founded on a deposit of sand, gravel, and boulders, overlying a thick stratum of stiff blue clay.

At the upper and downstream edges of

THE PRAIRIE PROVINCES OF CANADA

the structure, as well as at the centre, heavy cut-off walls, carried well down into the clay, are well bonded to the body of the carpet.

The structure is 720 ft. in length between abutments, with a maximum height of 40 ft. to the overflow crest, above which 11 ft. of water will be retained by the gates referred to. It contains about 40,000 cub. yards of concrete, and 2,500,000 lb. of reinforcing steel. Provision is made for a road bridge on top of the structure.

The abutments connecting the spillway with the earth dam are in the form of reinforced concrete retaining walls of the counterfort type, with a view of cutting off all possibility of leakage at this point.

The gates can be operated either by hand or by means of a small power plant, consisting of vertical turbines with direct connected generators installed inside the dam for this purpose, as well as for lighting.

The canal headgates form an integral part of the spillway structure at its northerly end, and consist of five openings each of 20 ft., controlled by "Stoney" sluices, electrically operated.

These gates control the discharge through a main canal of 70 ft. bed width, carrying 11 ft. of water, and designed to discharge 3,800 cub. ft. per second.

The material excavated from the first 13,000 ft. of the canal, amounting to about 1,000,000 yards, has been transported across the river, over a double-track pile trestle bridge, and placed in the earthen embankment.

The earthen embankment referred to is part of a very large contract awarded in June, 1910, extending over five years and including about 20,000,000 cub. yards of excavation in the Eastern section of the railway company's irrigation block, in which close to 500,000 acres will be placed under "ditch."

At a point about 5 miles from the intake, an earth dam, 1,280 ft. in length, 35 ft. maximum height, containing 80,000 cub. yards, is built across the valley, thus forming a tail pool, into which the main canal will discharge, and from which the branch canals will be fed.

From this pool two canals head—the north branch and the east branch. The north branch is the smaller of the two, and will serve the country lying north and west of Mat-zi-win Creek, which is the

name applied to the valley above mentioned. At the outset this canal is about 30 ft. bed width, carrying about 6½ ft. of water.

After crossing the railway line the location of this canal follows the west flank of a deep valley, known as Crawling Valley, to a point about 8 miles north of its intake, where it crosses the valley by a flume and then runs northerly. It will have numerous branches, and will become smaller as the distributaries are thrown off, finally tailing out at the Red Deer River.

The east branch, like the north branch, heads out in the tail pool of the main canal. Its size at the outlet is about 70 ft. bed width, carrying 9½ ft. of water. Its general course is south-east, and it will serve the balance of the country not served by the north branch.

Near Lathom the first branch takes off, crossing the railway and watering a large area between the two forks of the Mat-zi-win Creek. This branch is known as the Spring Hill Canal and is about 35 ft. bed width, carrying 7 ft. of water.

The east branch continues south-easterly, reaching the height of land at the head of Antelope Creek. At this point it again forks, the south-easterly branch being known as the Bow Slope Canal, which is about 17 ft. bed width, carrying 5 ft. of water, and will serve all the land on the Bow River slope.

At Cassils two smaller canals are taken off, and just south of Brooks the east branch will discharge part of its water into Lake Newell reservoir, which is being formed in a depression in the Little Rolling Hills by the construction of a number of earth dams, the largest of which will be about 2,000 ft. long and 30 ft. in height. The storage capacity of this reservoir will be about 185,000 acre feet.

The balance of the water in the east branch will go down the east flank of the Rolling Hills on a high grade line in a canal known as Rolling Hills Canal, the size of which is about 20 ft. bed width, carrying 5½ ft. of water.

The outlet from the reservoir will be a canal about 40 ft. bed width, carrying 7 ft. of water, and about 5 miles in length. At its easterly end it will discharge into a large reinforced concrete flume, about 10,000 ft. in length, which will carry about 900 cub. ft. of water per second over a deep notch in the watershed and deliver it

to the Bantry Canal, which will serve north and south of the Bantry Hills.

The Bantry Canal until it forks is about 45 ft. bed width, carrying 7½ ft. of water. After it forks the east branch is about 20 ft. bed width, carrying 5½ ft. of water.

The system to serve the Eastern section is a very large undertaking, involving as it does a great many large and important structures. The details of construction are being worked out with all possible care. It is intended to make use of reinforced concrete or other permanent construction in all important structures.

The estimated mileage of canals and ditches to serve this portion of the block is as follows:

Main canal	...	...	...	5 miles
Secondary canals	...	...	...	475 "
Distributing ditches	...	...	...	2,020 "
Total	...	...	...	2,500 "

Central Section.—This section contains 901,740 acres, and it was at first contemplated to irrigate about one-quarter of this area. Up to date construction of this portion of the system has been held in abeyance.

The company has throughout so constructed its system that water is delivered at the boundary of each farm unit of 160 acres or less. This was done as it was considered impracticable to leave to the settlers the building of the smaller ditches, a policy which would have resulted in delay, in excessive cost, and in a retarding of the development of the area.

The successful outcome of any large irrigation project is only partially solved by good construction; for ultimate success it is essential that the irrigated land shall be tenanted by farmers who can materialize its resources. Accordingly the sale of the lands in this block has warranted the establishment of an organization extending over all important points in Canada, the United States, Great Britain, and parts of Continental Europe. This has resulted during the past five years in the disposal of over 1,500,000 acres.

Everything that follows in the wake of increased population is an argument in favour of irrigation and the cultivation of small areas. No practical agriculturist can fail to realize the fact that the scope for irrigation in semi-arid conditions in northern latitudes is very great, and that this system of farming will ultimately become a leading factor and occupy a vital place in the agricultural development of Southern Alberta.



THE NARROWS, BUFFALO LAKE, MIRROR BEACH, ALBERTA.

THE LAKES OF THE PROVINCES



LAKES and rivers are prominent features of the topography of the Prairie Provinces, as indeed they are of Canada as a whole, and they are destined to play a greater part

in the development of the West in the future than has been the case in the past. Hitherto the progress of commerce has been first by pack-horse and later by the railway, and but small use has been made of the lakes and rivers. But there is little doubt that engineering skill will convert many of the larger lakes and rivers of the West into commercial waterways of the first importance. The most prominent inland seas of the Prairie Provinces are Lakes Winnipeg, Manitoba, Winnipegosis, and Dauphin, all situated in Manitoba, the Athabasca and Lesser Slave Lakes in Alberta, and the Reindeer Lake and Last Mountain Lake in Saskatchewan.

Thirty miles north of the city of Winnipeg lies Lake Winnipeg, with an area of about 7,900 square miles, stretching for some 286 miles north to the Nelson River, and varying in width from 5 to 70 miles. This lake receives the waters of numerous rivers which drain about 400,000 square miles of country. At its southern extremity it is fed by the waters of the Red River,

and in the east receives the Winnipeg River, which follows a turbulent course from the Lake of the Woods in Ontario. Further north its volume is swelled by the Berens River, while in the extreme northwest it is connected with the great Saskatchewan River by means of Cedar Lake. This connection is of great importance and at Grand Rapids surveys are already being made as a preliminary measure to the construction of a canal which will connect Winnipeg and Edmonton by way of the Red River, Lake Winnipeg, and the Saskatchewan River. Government engineers estimate that this work, which could be accomplished, it is said, at a cost of \$15,000,000, would make it possible to ship coal from Edmonton to Winnipeg at \$2 a ton and grain at 10 cents a bushel, a very large saving over the present rates being thereby effected. Improvements to the Red River are already in hand, and as soon as dredging operations are completed vessels drawing 9 ft. of water will have a direct route from the lake to Winnipeg. The lake is perhaps even more important as a link in the potential waterway from Winnipeg to Hudson's Bay. It has already been decided to build a railway between these two points, but the lessened cost of transportation by water would render a waterway of the utmost benefit. Its construction, however, would entail a very

considerable expenditure in improving the Nelson River, which at present is rendered exceedingly difficult of navigation by the many rapids which occur. It is navigable for 127 miles from its mouth, however, and the construction of a canal or electric railway 50 miles in length would link up the navigable portion with Lake Winnipeg.

The lake itself has an average depth of some 40 ft. which decreases in some parts near the shore to 12 ft. Its lack of sheltered harbours, however, is a serious drawback. At present the majority of the craft on the lake winter in the mouth of the Red River, but their number makes this a dangerous proceeding. The lake is navigable from the mouth of Red River at the south end to Nelson River at the north end, a distance of 300 miles, by steamers of a draught of 10 ft. The construction of a good harbour would largely eliminate this danger. Winnipeg Beach, a favourite summer resort, appears to offer the right facilities, but the bay would require deepening.

To the north of Winnipeg Beach is Gimli, the present terminus of the railway from Winnipeg. A good pier and lighthouse have been constructed here, and it enjoys a certain commercial importance as the transshipping point for quantities of timber and fish. Like Winnipeg Beach, it is also popular as a summer resort.



1. BUFFALO LAKE, ALBERTA (G.T.P. RAILWAY).
3. LAKE MILDRED, ALBERTA (G.T.P. RAILWAY).

2. PYRAMID LAKE, ALBERTA (G.T.P. RAILWAY).
4. LAKE WINNIPEG, WINNIPEG BEACH, MANITOBA.

THE LAKES OF THE PROVINCES

In passing through the Narrows, which are only some 5 miles across, a strong current is encountered with certain winds as the flow of the lake is northward, its surplus waters going out through the Nelson River into Hudson's Bay. In passing the Black Bear Island some curious caves can be seen at the water-level, and a lighthouse on this island renders useful service. Navigation at night is assisted by the fact that the water is very deep about the Narrows and northern part of the lake, averaging from 50 to 60 ft. in depth up to a much greater figure. Navigation, however, is complicated by shoals, low-lying islands, and many points or capes, one of which, Long Point, extends for 30 miles into the lake. The number of lighthouses or gas buoys is scarcely sufficient, and will undoubtedly be increased at an early date.

Lake Manitoba lies west of Lake Winnipeg. It is connected at its southern end with the Canadian Pacific and Canadian Northern Railways at Oak Point and Totogan. It is navigable from these points northwards to Gypsumville, a distance of 125 miles, by steamers drawing $5\frac{1}{2}$ ft. Dredging is being carried on to improve small harbours to a depth that will accommodate vessels drawing $4\frac{1}{2}$ ft. Vessels navigating the lake carry lumber and gypsum. The surrounding country is agricultural, and when settled the navigation on this lake will be of considerable importance. The lake is divided into two parts by a strait known as the "Narrows," which to distinguish it from other places with the same name is more often called the "Sifton Narrows." The channel at this point contracts to a width of 2,650 ft., with a maximum depth of 15 ft. The two divisions of the lake differ widely in their physical features. The southern portion is about 63 miles long by 29 miles in its widest part, and has a moderately even and regular contour, backed by level country. The only considerable stream flowing into the lake at its southern end is the White Mud River, which drains much of the country lying to the west.

The only islands worthy of mention are the Duck Islands, lying at the entrance to Dog Lake, which is situated to the south-east of the Narrows.

The portion north of the Narrows is cut up by long stony points which enclose deep bays, giving the lake a picturesque appearance that is lacking in the southern

part. The area of this portion of the lake is about 672 square miles, the length 56 miles, and the extent of shore line about 375 miles. The greatest depth of water is $21\frac{1}{2}$ ft., the average being about 16 ft. In the north the Waterhen River connects it with Lake Winnipegosis. Unlike the southern portion, there are many islands, and on some of them great numbers of cormorants are to be found, the lake being one of their breeding-places. On account of its slight depth the water is comparatively warm during the summer months, and exercises a very great influence in equalizing the daily range of temperature, and thus preventing summer frosts. The water is slightly milky, owing to the presence of fine clayey material in the soft bottom.

Lake Winnipegosis is separated only by some 2 miles of land from the north-east point of Lake Manitoba, and the greater portion lies about 40 or 50 miles to the west of Lake Winnipeg; at the extreme northerly limit, however, the distance from Lake Winnipeg is only 20 miles. Its area is about 2,000 square miles and it varies in width from 5 to 15 miles. The northern portion of the lake trends towards the west, so that its length following this course is nearly 150 miles. Its outlines are very irregular, presenting a constantly varying succession of bays, capes, and islands. The lake overflows by the Waterhen Lake and River to Lake Manitoba, its elevation over the latter being about 19 ft. The greatest depth of water ascertained is 38 ft., and it is 828 ft. above the level of the sea. The water is clearer than that in either Lakes Winnipeg or Manitoba, and, as in the case of the latter lake, exerts considerable influence in equalizing the temperature of the country in its vicinity, and thus preventing the occurrence of summer frosts. The lake freezes annually to a depth of from 2 to 3 ft.

Lake Winnipegosis is navigable from the town of the same name in a northerly direction for 120 miles for vessels with a draught of 7 ft. Vessels upon its waters are mainly engaged in fishing and the lumber trade. This lake is surrounded by a timber country and some good agricultural land.

The Meadow Portage between Lakes Winnipegosis and Manitoba has its western termination in a little bay fringed by a coast meadow. The shore

of this bay is free from boulders, and is a good landing-place for canoes and small boats, but a number of stony reefs lie a short distance out in the shallow water. There are many islands in the lake, the largest being Birch Island, while Hill Island in the north is also conspicuous. The latter rises about 40 ft. above the surface of the water. On the top of some of the cliffs, at heights of 20 to 25 ft., are deposits of rounded gravel, indicating old stages in the history of the lake. In the northern part of the lake are many other islands, most of which are bordered with fine drooping elms of a large size. The scenery at Dawson Bay during the summer is very beautiful, the Porcupine Mountains and the poplar forests of the mainland forming an effective background for the green islands and blue bays of the lake. Point Wilkins, a bold promontory which rises almost perpendicularly to a height of 70 ft., is a conspicuous landmark. East of Grand Island lie the Cormorant Islands, the largest of which is wooded, while the others are bare and stony and form the breeding-places of great numbers of cormorants and pelicans that pay an annual visit to the lake.

Dauphin Lake, situated about 9 miles south of Lake Winnipegosis, is associated with the earliest explorations of Western Canada, as one of the old French trading posts appears to have been established on its shore. The exact situation of the post has not been verified, but it is believed to have been near the north-western extremity of the lake. The latter lies at the northern base of the Riding Mountains, in the midst of alluvial plains, at an altitude of about 700 ft. above sea-level. In length it is about 26 miles and varies in breadth from 6 to 8 miles, covering an area of about 196 square miles. It has about 64 miles of shore line. The water is shallow, being in its deepest part not over 12 ft. It abounds in fish, and in summer-time is traversed by motor launches which carry goods and produce for the farmers near its shores. The lake is, for some little distance away from the water-line, surrounded by marshes which are separated from one another by narrow ridges of ground. It receives the waters of five rivers, the Turtle, Ochre, Vermilion, Wilson, and Valley. Several of these rise in the Duck and Riding Mountains. The lake dis-

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charges its surplus waters into Lake Winnipegosis by way of the Mossy River.

About 35 miles to the north-west of Winnipeg and 12 miles to the east of Lake Manitoba is a small sheet of water known as Shoal Lake. It is nearly 30 miles in length and varies in width from 2 to 8 miles. The water is clear and pure, and the lake is considered by many people as the best source from which to obtain a permanent supply of pure water for Winnipeg. The shores consist of

of beavers in damming some of the smaller streams. Practically all teem with fish of an excellent quality, whitefish and trout being the chief varieties. They also form a resort for countless thousands of geese and ducks.

The principal lake, which is wholly situated in Saskatchewan, is the Remdear, in the north-east of the province. In length it is 135 miles, while the width in the northern section, which is much broader than the southern, averages

the lake at Craven. It is navigable from this point for 70 miles in a northerly direction by vessels of a draught of 7 ft. The lake is surrounded by a rich prairie country, and is becoming a popular summer resort of the inhabitants of Saskatchewan.

The lakes in the Qu'Appelle district, partly on account of their position and value as fisheries, are worthy of a passing notice. The largest—Fishing Lake—is about 5 miles in length, and varies from a mile to half a mile in width. Its mean



1. LAKE WABANUM, ALBERTA.

2. MIRROR BEACH, ALBERTA.

gravelly and sandy beaches, which are fringed here and there with thick belts of poplar. The lake is the resort of large numbers of wild fowl and attracts many sportsmen in the autumn.

In Saskatchewan and Alberta the lakes are more numerous than important, none of them comparing with the greatest of the inland seas of Manitoba either in point of magnitude or utility. In size they range from small pools of a few square miles in area to large sheets of water covering many hundreds of square miles. They are often shallow and weedy, many having been formed by the action

about 30 miles. The southern end of the lake consists of a long arm containing numerous islands. At one point this arm is only 1 mile in width. The shore is very irregular and is dotted with innumerable rocky islands, which, together with the stony shores, are generally thinly covered with a sparse growth of small black spruce. The altitude of the lake above sea-level is high, being 1,150 feet. The largest stream received is the Cochrane or Ice River.

Last Mountain Lake is connected with the Canadian Northern and Canadian Pacific Railways at the southern end of

depth is about 28 ft. At its head are sandbanks, which are the resort of large numbers of waterfowl.

Extending across the borders of Alberta and Saskatchewan is the most important piece of water in these two provinces, Lake Athabasca. It extends from the mouth of Black River in the east to the Athabasca and Slave Rivers in the west. It lies in the bottom of a great valley, and has on its southern side a great sandy plain which rises at its eastern point to a height of 500 ft. above the lake, and then gradually slopes westwards. Towards this part the water is clear and pure, but at its

THE LAKES OF THE PROVINCES

south-western extremity is rendered turbid by the muddy waters discharged into it by the Athabasca River. This lake is now navigated from Fort Chipewyan to Fond du Lac, a distance of 130 miles, by steamboats drawing 7 ft. of water, but much larger and deeper draught boats might be successfully used.

It has a greatest length of 195 miles, while the greatest width is 35 miles. At Fond du Lac, at the eastern extremity, the width decreases to 2 miles. The shore line extends some 425 miles. The total area is about 2,850 square miles, and it is situated 690 ft. above the level of the sea. Connected with Slave River, which, after pursuing a course from Great Slave Lake in the north, empties into Lake Athabasca, is a branch stream called "Quatre Fourchés." From these rivers there is, in the early summer, a steady flow of water into Lake Athabasca. But in autumn this is changed, and the lake flows into these rivers, discharging its accumulated waters into the larger basin of Great Slave

Lake. Lake Athabasca receives the drainage of a very extensive region which is almost totally covered with forests. The Athabasca River takes its rise in the Rocky Mountains, and flows in a general north-eastern course until it enters the lake. Athabasca Lake also receives the waters of the great Peace River, which rises in the distant Rocky Mountains. In the north it forms an outlet for the Charlot River. In the west there are a few large, low-lying islands which are thickly wooded. Fort Chipewyan is an important fur-trading port on the northern shore and near the western extremity. It has been in existence since the early part of the nineteenth century.

The Lesser Slave Lake in Alberta is a long and comparatively narrow sheet of water extending in an easterly and westerly direction. Its length is 70 miles, while the average width is about 8 miles, the maximum being 12 miles. It covers an area of 484 square miles. The deepest part of the lake lies to the east of the Narrows, south-west

of Martin Mountain. The northern shore is fairly regular in outline, with stony and sandy beaches, while the southern margin is nearly everywhere marshy. Many streams flow into the lake, these being Lesser Slave River, the Heart River, Salt Creek, Narrow, Swan, and others. Excepting the Lesser Slave River, however, which is navigable for a considerable distance, these streams are insignificant, and can only be navigated at high water with small canoes.

Amongst the lakes of lesser size and importance may be mentioned, in Alberta, Hay Lake, Lac La Biche, Cold Lake, Beaverhill Lake, Buffalo Lake, Lake Gough, Sullivan Lake; in Saskatchewan, Wollaston Lake, Cree Lake, Buffalo Lake, Lac La Plonge, Lac La Ronge, Big Quill Lake, White Swan Lake, Montreal Lake, Candle Lake, Cumberland Lake, Little Quill Lake, Lake Chaplin, Lake Johnston; and in Manitoba, Southern Indian Lake, Etawney Lake, North Indian Lake, God's Lake, and Island Lake.



MOOSE LAKE, NORTH MANITOBA.



EVENING ON THE LAKES.

WATER POWER



EXCEPTING those more immediately accessible, but little is known at present of the water powers of Manitoba, Saskatchewan, and Alberta. Again, such informa-

tion as is obtainable is not very comprehensive, since the scientific investigation undertaken by the Dominion Government has not yet been concluded. Statements destitute of any reliable basis have from time to time been offered. With a few exceptions, however, they can be regarded only as pure surmise, and on that account can scarcely be said to merit serious consideration.

It follows that such information as this article contains should be regarded as a statement of what is known rather than in the light of a statement of what exists.

Turning first to the administrative side of the question, it may be noted as a matter of some interest that Manitoba, Saskatchewan, and Alberta occupy, in water power as in many other matters, a position differing considerably from that of the other provinces. The Governments of these provinces have, in effect, over water power no jurisdiction whatever. Complete control is vested in the Dominion Government, and such legislation as exists, to safeguard both the water power itself and the many interests which are liable to injury from an abuse of its use, has been passed by the

Dominion Government and is administered by the Minister of the Interior at Ottawa. The position of this Minister is one of considerable importance, since in the event of any dispute as to the area of land which may be taken for water power purposes he is, by the Dominion Lands Act, 1908, constituted the sole and final judge.

Under the regulations as at present existing, an application for a licence to use water for power purposes may be said to pass through three distinct stages.

First, the applicant obtains the necessary information regarding the proposed development and applies for his licence, his application being accompanied by a description of the site and proposed works.

Second, if the Minister approves of the proposed works, he enters into an agreement with the applicant and gives permission for constructional work to be proceeded with.

Third, when the works are completed and the Minister is satisfied that the terms of the agreement have been fulfilled, he issues the licence.

The licence thus obtained runs for a period of 21 years and is renewable for three consecutive periods of 21 years each. A fixed fee, which is liable to be readjusted at the beginning of each term, is payable annually. The terms of the licence are in many respects necessarily stringent. It states the maximum amount of water that the licensee may divert, store, and use; stipulates that

the licensee shall develop, up to the full extent granted by his licence, such power as the requirements of the public demand; and provides for the return to the stream or other source of the full amount of water used.

It will be seen, therefore, that the control of water power is designed both to place its use upon a proper basis and to protect the public, whose interests are more closely concerned in the matter than is generally supposed. In the event of a licensee failing to utilize power which might advantageously be developed in the public interest, the Minister can call upon him to increase the scope of his works, and should he, within a reasonable time, fail to comply with these requirements, the Minister may, on the payment of proper compensation, cancel the licence. This may fairly be cited as a clause designed to protect the public from the effects of a merely selfish use of one of the great natural resources of the country. A clause protecting the interests of the licensee is one which provides that the Government shall compensate the licensee whose power works can no longer be advantageously operated owing to the exercise of rights existing or created under the Irrigation Act.

The amount of compensation in these cases is determined upon the following scale:

- (1) If the works have been in operation less than 5 years, a 30 per cent. bonus upon the value of the works.

WATER POWER

(2) If in operation more than 5, and less than 10 years, a 25 per cent. bonus.

(3) If in operation more than 10 and less than 15 years, a 20 per cent. bonus.

(4) If in operation more than 15 and less than 20 years, a 15 per cent. bonus.

(5) If in operation 20 years or more a 10 per cent. bonus.

A water-power licence is not transferable without the written consent of the Minister, and, should the licensee fail to observe any of the conditions upon which it is granted, the Exchequer Court on the application of the Crown may cause it to be cancelled without compensation.

The schedule of rates charged to the public for the use of power must receive the sanction of the Board of Railway Commissioners of Canada before it can become effective. Sanction, when it is secured, is given for a period of 7 years, when it must again be submitted for approval.

The Irrigation Act, to which reference has been made, applies to Alberta and Saskatchewan, and, with the exception of certain districts, to the North-West Territories. Here, again, control is vested in the Minister of the Interior. Companies formed to promote irrigation are subject to the provisions of the Act, and may acquire waters owned by the Crown when, by the grant, other persons are not deprived of water necessary for domestic use.

In the following particulars, which describe what is known of water power, active and potential, in the Prairie Provinces, considerable use has been made of the valuable and interesting report on this subject issued by the Commission of Conservation of Canada.

Manitoba

In Manitoba the largest water-powers are situated in the Winnipeg River, and owing to the advancement made in long distance transmission of electrical energy, are now within easy distance of the principal centres of population in the province. Two important power sites on this stream have been already developed to supply electrical energy to the city of Winnipeg, one at Pointe du Bois and the other in the Pinawa Channel. Work on other developments will probably be commenced at an early date.

The Winnipeg River has its source in the Lake of the Woods, which has an area of 1,850 square miles. This lake is controlled

at Kenora, Ontario, by a dam. The river over its length of 158 miles has a drainage basin of some 44,000 square miles. Various discharges are given for the river, and from these minimum flows have been estimated. The lowest estimate is 16,000 cub. ft. per second. The numerous lakes, swamps, and muskegs of this region have, naturally, tended to make the discharge of the river more uniform. The forest denudation which has taken place through lumbering operations, through fires, and through settlement, sparse though it is, has doubtless increased the range of variation in discharge, but, on the other hand, the improvements at the outlets of the lake have had the contrary effect. The lake has an estimated storage capacity of 70 per cent. of the yearly run-off, and could be so controlled as almost to double the present minimum flow of the river; but, as a portion of the lake is in the United States, raising the level would involve an international question. The first important fall in ascending the river is Pine Fall. A dam resting on solid granite and about 860 ft. long would raise the head to 11·87 ft. Silver and Whitemud Falls could be combined by a dam 21 ft. high and about 800 ft. long, which would give a total head of 43·62 ft. At Grand du Bonnet Fall a dam could be built to raise the water 14 ft., obliterating McArthur Fall and giving a total head of 48·09 ft., with a minimum horse power of 87,250. The Pinawa Channel is used by the Winnipeg Street Railway Company for its 25,000 h.p. plant. This company had to cut away a large amount of rock from the head of this channel for a distance of 4 miles. The diversion weir, which is built across the main channel, raises the water about 6 ft., and has the effect of diverting from the main stream to the Pinawa Channel the additional water required at the generating station. At Stave Fall a dam could be built to raise the water 8·19 ft., obliterating the Eight-foot Fall and giving a total head of 25·58 ft., with a minimum of 46,450 h.p.

Pointe du Bois and Lamprey Falls are utilized by the City of Winnipeg municipal generating plant.

There are also water powers in the western portions of the province on the Little Saskatchewan River—such as at Minnedosa, 135 miles west of Winnipeg, where 3,000 h.p. is being developed—the Assiniboine, and other rivers, which are of some importance on account of their geographical position.

Saskatchewan and Alberta

In connection with irrigation many data have been collected, for the Department of the Interior, on the flow of streams in the southern portions of these provinces. This information can be used in connection with water-power estimates where the available head at the different rapids and falls is obtainable from other reliable sources. The reports published by the Topographical Surveys Branch give very complete and comprehensive information in this regard. Some of the water powers of these provinces have also been investigated by private corporations.

One of the more important streams is the North Saskatchewan River, which may be considered a navigable river throughout its length from the head of the Grand Rapids, near Lake Winnipeg, to Edmonton and beyond. For many years it has been navigated by the Hudson's Bay Company's steamboats, and between Prince Albert, Saskatchewan, and the Grand Rapids, a distance of 525 miles, there are only two points where difficulty is experienced in navigating the river on account of rapids. This occurs at Cole Rapids, which consist of a series of short rapids, and at Tobin Rapids, 140 miles below Prince Albert, where there is a series of rapids 8 miles in length. The proposed development at Cole Rapids has for its principal object the supply of electrical energy to Prince Albert, 25 miles distant. The minimum discharge of the river at this point is taken to be 4,600 cub. ft. per second, and, under the head of 28 ft. which can be obtained, would give 14,700 theoretical horse-power.

The Bow River rises in the watershed of the Rocky Mountains, and flows in a south-easterly direction until it reaches the foot-hill country at the "Gap." It then turns to the east as far as Calgary, and thence runs south and east to its confluence with the Belly River. Between its source and the "Gap" a number of streams flow into it from the various mountain valleys that it intersects. Almost immediately after leaving the mountains it is joined from the south by the Kananaskis River, a stream of good size and fairly uniform flow, which has its source in the eastern ranges of the Rocky Mountains in muskegs and lakes lying at a considerable elevation. From this point to its confluence with the Belly River the Bow furnishes the run-off channel for

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the eastern slope of the Rocky Mountains and is fed by numerous streams. It flows in a deep valley, some hundreds of feet below the surrounding bench land, in a well-defined channel, with banks and bottom of coarse gravel, large stones, and boulders. It is broken in several places by falls and rapids. At Calgary, a hydro-electric plant derives its power from one of these. A large development at Horseshoe and Kananaskis Falls, where a head of 70 ft. is obtained, supplies electrical energy to the City of Calgary and to other interests. The initial installation comprises two generators each of 2,500 k.w. capacity, but the development is designed for an ultimate capacity of some 15,000 h.p. There is another fall of some importance near Banff, a head of about 64 ft. being available. As this is much nearer the head-waters, less power than that which can be obtained at the sites previously referred to is available.

The Bow River is tapped at Calgary to supply the Canadian Pacific Railway Company's irrigation canal, which, at times, takes over 450 c.f.s., or more than one-third of the low-water flow of the river at this point.

St. Mary River.—The upper St. Mary River valley, which is well defined, and consists of rolling slopes and "cut banks," is half a mile wide. Through it the river flows at an average depth of 140 ft. below the surface of the surrounding country. In some parts the valley takes the form of a cañon which averages 150 ft. in depth. The bottom is of solid sandstone and limestone, visible nearly everywhere. The upper portion of the river valley to the International boundary consists, alternately, of flats and cut banks, 50 to 100 ft. high. The drainage conditions are favourable for a quick run-off. Power could be developed in this river by building a dam, but a higher head could be obtained by carrying the water from the International boundary by a canal and pipes to the point above mentioned, a total distance of about 10 miles. The lower portion of the St. Mary River can

hardly be depended upon for water power, at least during the season of irrigation, as the Alberta Railway and Irrigation Company have secured the right to use practically the whole flow of the river for irrigation purposes.

Other streams in south-western Alberta in which water power varying from 600 to 2,700 h.p. could be developed are Tib Creek, Blakiston Brook, and Waterton, South Fork, Old Man, Crownest, Livingstone, Sheep, and Elbow Rivers. All the streams in the Rocky Mountains, the Red Deer, Clearwater, North Saskatchewan and its mountain tributaries, the Athabasca, Smoky, Wapiti, Peace, and many other rivers, will permit large developments and, in most instances, are fed by glacier streams with a summer flow that is rendered fairly uniform by the discharge from the melting *mers de glace*.

Athabasca River.—Rising in the watershed range of the Rocky Mountains and receiving many glacial tributaries, the Athabasca contains many valuable power-sites between its source, at an altitude of about 5,000 ft., and its *débouchement* into Lake Athabasca at an altitude of 690 ft.

Of these, the most noted are at the succession of falls and rapids known collectively as the Grand Rapids. As they can only be rendered navigable by canals, the question of interference with navigation does not require consideration.

Peace River.—The remarks respecting the Athabasca also apply in large measure to this river. In addition to the power-sites in the ranges west of the Rockies, there are two important sites on this stream. The upper is at Rocky Mountain Portage. At this point the river is a raging torrent, flowing 25 miles through a cañon, and has a total fall of 270 ft. The lower is situated at Vermilion Fall, the only interruption to navigation between its confluence with Slave River and above Dunvegan, a distance of upwards of 530 miles.

Swift Current Creek.—Near the town of Swift Current power can be derived from this river.

The following table embodies the result of regular observation of the flow of some of the streams in Saskatchewan and Alberta:

MEASUREMENTS OF STREAM FLOW.

	Yearly Maximum (in c.f.s.)	Yearly Minimum (in c.f.s.)	Drainage Area in Square Miles.
SASKATCHEWAN.			
Maple Creek (near Maple Creek)...	—	0'04	91
Piapot Creek (Sec. 17, Tp. 11, R. XXIV)...	552	1'35	50
Bear Creek (Sec. 18, Tp. 11, R. XXIII)...	741	1'8	95
Frenchman River (Sec. 31, Tp. 6, R. XXI)...	1,534	16'4	635
Fairwell Creek (Sec. 30, Tp. 6, R. XXIV)...	471	3'25	135
ALBERTA.			
Bow River (Calgary, below Elbow River and Canadian Pacific Canal)...	22,051	1,280	3,828
(Canadian Pacific Canal)...	468	—	—
(Banff)...	11,060	375	876
Highwood River (High River)...	9,180	115	735
Sheep River (Okotoks)...	7,685	72	602
Fish Creek (near Priddis)...	556	5	105
Elbow River (Calgary)...	5,615	212	466
Jumpingpound Creek (near Jumpingpound, P.O.)...	829	20	178
Belly River (Standoff)...	3,330	132	423
Mosquito Creek (near Nanton)...	931	5	178
St. Mary River (Kimball)...	7,280	200	472
Lee Creek (Cardston)...	—	7	103
Old Man River (Cowley)...	8,285	170	798
Trout Creek (Sec. 1, Tp. 12, R. XXVIII)...	437	15	168
Waterton River (Waterton Mills)...	7,750	200	238





GEOLOGY OF MANITOBA, SASKATCHEWAN, AND ALBERTA

By G. A. YOUNG, M.Sc., Ph.D.

(By permission of the Director of the Geological Survey)



THE provinces of Manitoba, Saskatchewan, and Alberta include within their bounds portions of three of the major geological and physical divisions of Canada. The northern part of Saskatchewan and the greater part of Manitoba lie within the Laurentian plateau; the south-western part of Manitoba, the southern half of Saskatchewan, and nearly all of Alberta form part of the interior continental plain; while the extreme south-western part of Alberta belongs to the Cordilleran region. The Laurentian plateau is a vast region encircling Hudson's Bay and underlain by pre-Cambrian rocks consisting largely of granites with relatively small areas of deformed volcanic and sedimentary strata. These ancient rocks form the basement on which repose the almost unaltered, nearly flat-lying Palæozoic, Mesozoic, and Tertiary sediments that floor the region of the interior continental plain. Further west, in the Rockies, which belong to the Cordilleran region, the at one time horizontal Palæozoic and Mesozoic beds have been subjected to mountain-building forces, and now lie in great folds and fault blocks.

Geologically the portion of the Cordilleran region included in Alberta is closely linked with the region of the plains, and both are sharply divided from the pre-Cambrian, Laurentian plateau region.

The portion of the Laurentian plateau included in Manitoba and Saskatchewan, like the whole of this great pre-Cambrian region, is underlain mainly by granitic rocks which over the greater part of the area are foliated or gneissic. Associated with these igneous rocks of deep-seated origin are band-like areas, often many miles in length, of sedimentary and volcanic strata that usually are highly altered and commonly occur in a much disturbed condition. These sediments and volcanics resemble in a general way the Keewatin and Huronian formations so largely developed over the Laurentian plateau further to the east. The granitic rocks are, in part at least, younger than the sediments and volcanics, but, presumably, granites of various relative ages are present.

The deformed nature of the sediments and volcanics and the presence of such vast areas of granitic rocks indicate that the pre-Cambrian history of the region was long and complicated. Periods of sedimentation or of volcanic activity alternated with others of prolonged erosion, mountain building, or the deep-

seated invasions of great bodies of granite. Long before the main Palæozoic seas invaded the region all such activities ceased, and forces of denudation levelled the region almost to the condition of a rolling plain and stripped the coverings of sediments and volcanics from off the great bodies of granite. Following this period of long-continued erosion, sedimentation again took place at least locally. Over a large area in Northern Saskatchewan, bordering Lake Athabasca on the south, a thick series of red conglomerates, sandstones, and shales was deposited. These beds, known as the Athabasca series, lie horizontally and are as little altered as the neighbouring Palæozoic strata. The Athabasca series may be of Cambrian age. It has been correlated with the Keweenawan of the Lake Superior district, which too may be of Cambrian age, though it is generally regarded as of late pre-Cambrian age.¹

The pre-Cambrian area of Northern and Eastern Manitoba and Northern Saskatchewan is bordered both on the south-west and north-east by Palæozoic strata. The Palæozoic measures of the south-west border form a band many miles wide which strikes northward from the International boundary to beyond the foot of Lake Winnipeg, and from there

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north-westward to the valley of the Mackenzie. The Palæozoic strata of the north-eastern border of the pre-Cambrian district form part of a large area of these measures extending along the south-west side of Hudson's Bay and the west and south sides of James Bay. In both areas the Palæozoic measures lie nearly flat, and range in age from Ordovician to Devonian.

The Ordovician measures of the band of Palæozoic bordering the pre-Cambrian on the south consist of sandstones overlain by shales and limestones. In age these measures appear to range from middle Ordovician to upper Ordovician. They are conformably overlain by Silurian limestones of Niagara and Guelph age. Above these lie sandstones and shales of Devonian age. The whole series seems to be conformable, though it is probable that the sequence is not complete and that unconformities exist. All three Palæozoic systems are not everywhere exposed along the border of the pre-Cambrian region, since in places the Silurian overlaps the Ordovician and in other districts the Devonian overlaps both the Silurian and Ordovician and rests directly on the pre-Cambrian.

To the west the Palæozoic measures disappear beneath the nearly horizontal Cretaceous and Tertiary strata that underlie the greater part of Saskatchewan and almost all of Alberta. Farther west, in the Rockies, as a result of the tilted and folded condition of the strata, Palæozoic measures are again exposed. In that portion of the Rockies that lies in South-Western Alberta all the divisions of the Palæozoic from the Cambrian to the Permian are represented. The total thickness of these sediments is enormous, the Cambrian alone being over 20,000 ft. thick. Beneath the Cambrian beds in the Bow River Valley lies a considerable thickness of nearly unaltered pre-Cambrian sediments. In the extreme south, presumably pre-Cambrian strata attain a thickness greater than that of the Cambrian. The Palæozoic and pre-Cambrian beds are very largely sandstones and shales or their altered equivalents, but limestones are common throughout and are strikingly developed amongst the Devonian and Silurian strata. Though the whole of the Palæozoic series is represented in the Rockies, yet the section is not complete in any one district. Throughout Palæozoic time the seas appear to have been

constantly advancing and retreating, but these movements were accomplished without the aid of mountain-building forces, and therefore the strata of different periods succeed one another without any direct evidence of unconformity.

The upturned Palæozoic strata of the Rockies and the flat-lying Palæozoic measures lying far to the east along the borders of the Laurentian Plateau were deposited, presumably, in the same general seas, and therefore it may be concluded that the Mesozoic and Tertiary strata of the plains are virtually everywhere underlain by Palæozoic beds. The Palæozoic seas probably invaded the eastern region later than the western, for Cambrian measures are lacking in the east though strongly developed in the west. The absence of the Carboniferous from the eastern region may be taken to indicate that the Palæozoic seas permanently withdrew from this region before this period. Possibly, however, Carboniferous measures were once present in the east, but were eroded away during the earlier periods of Mesozoic time prior to the deposition of the Upper Cretaceous beds which floor so much of Alberta, Athabasca, and Manitoba.

In the west, in the region of the Rockies, though strata have been recognized that are probably of Permian age, it would appear that the Palæozoic seas largely withdrew at the close of the Carboniferous period. In South-Western Alberta, in the Rockies near the International boundary, certain red strata have been assigned to the Triassic, but these are of limited distribution. It thus appears that from before the close of the Palæozoic time until after the opening of Mesozoic time the western and eastern borders, and presumably much of the central portion of the three provinces, were above sea-level. In the east this period of non-deposition continued until the opening of the Upper Cretaceous period; in the west it ceased in Jurassic time. During this lengthy interval of non-deposition the forces of erosion were doubtless active, but the region was not affected by mountain-building forces, and denudation proceeded so evenly that, when sedimentary deposits were again laid down, they were received upon an even surface with scarcely any appearance of unconformity.

In the Rockies of South-Western Alberta the oldest undoubted Mesozoic strata are the Fernie shales, which are of Jurassic

age. This series, in places 1,500 ft. thick, is in parts at least of marine origin. It is overlain by the Kootenay formation, consisting chiefly of sandstones and shales and containing many coal seams. The Kootenay in places attains a thickness of 5,000 ft. and is of very early Cretaceous age. The strata are non-marine in character, or, at least, were not deposited in the open sea. The Fernie and Kootenay measures are conformable and are known only in the Rocky Mountain region. They decrease rapidly in thickness when traced in an easterly direction, and presumably thin out beneath the cover of later Cretaceous in Central Alberta.

The folded and faulted Fernie and Kootenay measures of the Rockies are directly overlain by Upper Cretaceous strata. These extend eastwards into the undisturbed region of Central Alberta, where they are covered by a great area of Tertiary beds. The same general strata, though presenting various differences, reappear on the north and east of the Tertiary area and extend eastward through Saskatchewan and Manitoba to where the underlying Palæozoic strata emerge. Throughout this great area of Upper Cretaceous, except in the Rockies and in the bordering foothill region, the strata are nearly horizontal or lie with very gentle dips in immense flat folds.

In the east the oldest member of the Upper Cretaceous is the Dakota sandstone, which varies in thickness from a few feet to several hundred. It outcrops all along the eastern edge of the Cretaceous area, and rests directly on the bordering Palæozoic strata. In Northern Alberta, along the northern edge of the Cretaceous, the Dakota is represented by the Tar Sands; in the Rockies the formation is represented by coarse material of greatly increased thickness. The Dakota sandstone seems to be largely, if not entirely, non-marine in origin, and probably was deposited mainly through the agency of rivers.

Following the deposition of the Dakota formation, the plains region during the Colorado period was invaded by a sea reaching from the Arctic to the Gulf of Mexico. In this sea were deposited dark shales, followed by calcareous shales and shaly limestone. These rocks outcrop in Manitoba along the escarpment that marks the eastern limit of the Cretaceous area, and attain a maximum thickness of 700 feet. In Northern Alberta these

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measures seem to be represented by several thousand feet of shales and sandstone. Measures of the same age outcrop in the disturbed region of South-Western Alberta, accompanied locally by tuffs and agglomerates.

The marine conditions of the Colorado period continued into the succeeding Montana period, and in places perhaps held throughout this division of Cretaceous time. In Eastern Saskatchewan the beds of this series are represented by a group of shales capped by sandstones deposited in a shoaling sea. These marine beds are, perhaps, also represented in the far north, but in Western Saskatchewan and Eastern Alberta, over a wide region extending from the latitude of Edmonton southward beyond the International boundary, the country during a part of Colorado time was in a fluctuating state, so that brackish and freshwater deposits with seams of lignite were formed, and finally were succeeded by true marine deposits. The non-marine beds, the Belly River group, have been brought to light by a broad anticlinal fold. They are underlain by marine shales and sandstones and overlain by similar beds.

The shallowing of the seas at the close of the Montana period seems to have forecasted a general withdrawal of the marine waters and the inauguration of freshwater conditions over a large part of the plains region during the time of deposition of the succeeding strata, which it has been customary to assign to the Laramie group. These measures occupy a large area in Alberta, extending from Lesser Slave Lake

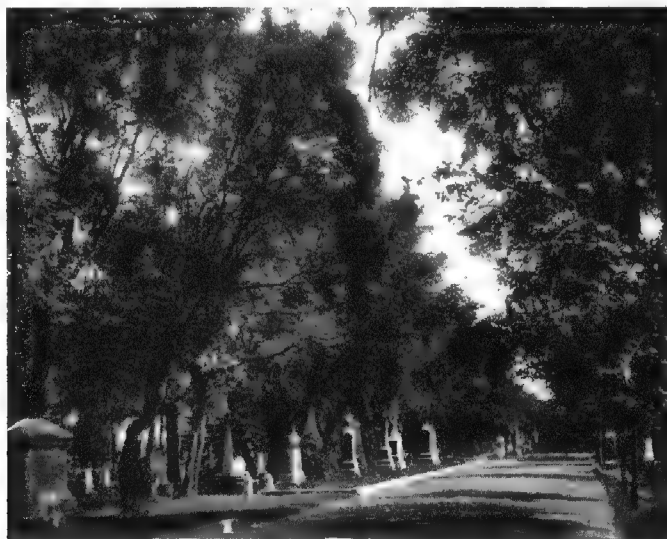
southward to the International boundary. They also occur in Southern Saskatchewan and in Manitoba. The Laramie beds succeed one another conformably, and apparently were continuously formed during late Cretaceous and early Tertiary time. The group of strata is very variable in thickness. It may be divided into two portions—a lower one, named the Edmonton, and an upper one, called the Paskapoo. The Edmonton consists largely of argillaceous strata and is coal-bearing. The Paskapoo is much more arenaceous in character. It is considered to be of early Eocene age. Towards the close of the Laramie, in early Tertiary time, the western margin of the then interior plain region was subjected to tremendous earth movements, causing the formation of the Rocky Mountains. The Palæozoic and Mesozoic strata, until then nearly horizontal, were folded and traversed by immense dislocations, and were tilted and pushed upwards and eastwards in places for miles. Eastward of the main ranges of the Rockies the effects of this mountain-building epoch gradually disappear in a series of lower and lower wave-like ridges; but far eastward the effects of the disturbances are apparent.

After the mountain-building epoch of Tertiary time the plains again became a region of deposition, and during the Oligocene period the argillaceous strata, sandstones, and beds of waterworn pebbles of the Cypress hills were laid down apparently by detrital-laden, eastward-flowing rivers.

During the Glacial period the whole interior plain region and the great pre-

Cambrian region to the north was invaded by an immense ice sheet, the Keewatin sheet, which pushed out from a centre situated in the far north about midway between Great Slave Lake and Hudson's Bay. This sheet extended southward beyond the International boundary and westward to the foothill region bordering the Rockies. In the Rockies, mountain glaciers formed, but these pushed eastward only a little beyond the foothills. A part of Manitoba was also overridden by another ice sheet whose centre lay in the Labrador peninsula.

During the advance and retreat of the great ice sheets, immense quantities of glacial and fluvio-glacial detritus were deposited over the region of the plains, and now form a widespread mantle effectually concealing the underlying rocks. The deposition of this material modified the pre-existing topography and caused marked changes in the drainage systems. Some of these changes were temporary in character, as in the case of glacial Lake Agassiz. This lake formed in Southern Manitoba during the retreat of the ice sheet, which as its front withdrew northward dammed the waters of the Red River Valley and caused them to flow southward to join the Minnesota River. As the margin of the sheet continued its retreat northward a lower, temporary northern outlet was afforded, and the waters of the glacial lake were correspondingly lowered. Finally the ice sheet disappeared, the waters found their old outlet to the north, and glacial Lake Agassiz disappeared.



CHURCHYARD, ST. JOHN'S CATHEDRAL, WINNIPEG.



AN ALBERTA COAL MINE.

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THE MINERAL RESOURCES OF THE PROVINCES

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GEOLOGICAL formations transgress provincial boundary lines with utter indifference to the provincial powers that be. Hence it is usually the case that the mineral wealth of a country is best considered without any reference to the arbitrary divisions imposed by man, and solely from the point of view of the formations in which they occur. While dealing only with the region included within the boundaries of the provinces of Manitoba, Saskatchewan, and Alberta as now defined, we will as far as possible adopt the same method in describing the mineral resources of these provinces.

A broad classification of economic minerals from the point of view of the kind of rock in which they occur is particularly applicable to the region under consideration. One class of mineral is associated with igneous eruptions, and embraces the majority of the more valuable deposits, as for instance gold, silver, copper, and frequently iron ores. These are often found in a region bare and rocky, where the possibilities of agricultural development are small. But there is a second class of

resources, connected with the sedimentary formations, and found more usually in settled agricultural districts. This class of product does not always attract so much attention as the more showy ore deposits do, but is none the less valuable in contributing towards the development of the country. We refer to the coals, oils, shales and clays, limestones, and other deposits, all grouped under the non-metallic minerals. In the Prairie Provinces the classification is a simple one. Here there is no evidence of igneous activity later than pre-Cambrian times. Except towards the east and north-east, the pre-Cambrian rocks are covered by layer on layer of horizontally bedded sedimentaries. The pre-Cambrian is exposed over the greater part of Manitoba, and over a much smaller proportion of Saskatchewan, while in Alberta only a very small patch in the north-east corner of the province shows these old eruptives.

We must consider the mineral wealth of the pre-Cambrian almost entirely from the point of view of future possibilities, as little actual mining has as yet been carried out. The minerals that are known to exist are gold, iron, and copper ores, and there is no *a priori* reason, judging from the geological configuration, why careful prospecting should not yet reveal silver deposits

such as have made Cobalt famous, or bodies of nickel ore such as have made Sudbury the premier nickel camp in the world. For although there are large areas of Keewatin and Huronian rocks, which will undoubtedly appear as much more extensive formations in the more detailed maps of the future, prospecting has as yet been desultory in the extreme. More systematic work has been done in Eastern Manitoba than in any other part of this territory; and there two districts have recently been receiving considerable attention. One forms the western extension of the Lake of the Woods goldfield, and the other lies in the Hole River, Keewatin and Huronian belt, between Lake Winnipeg and the eastern boundary of the province. In the former a certain amount of development work has been done, while the latter is hardly beyond the prospecting stage. It is yet too early to say more than that gold has been found over comparatively wide areas, and that both districts merit fuller investigation than has yet been given them. But these belts are small in comparison with the areas of similar rock further north, more especially beyond the northern fringe of the limestone in Western Manitoba and Eastern Saskatchewan. With the advent of the Hudson's Bay Railway such

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areas will be rendered more directly accessible, and the opening of the railway will undoubtedly herald a period of activity among prospectors in these little-known northern regions.

Iron has been found in several localities, as magnetite or as hæmatite. A comparatively pure deposit of pisolitic hæmatite on Black Island, Lake Winnipeg, is being held for future development. Magnetites with interbedded jaspers—true "iron formation"—have been found, while numerous specimens of pure magnetites are forwarded from many parts of the north. In common with northern Canada generally, the district must wait, as far as the development of the iron resources is concerned, not only till railway communication extends throughout the north, but till the enormous power resources of the waterways are made available for smelting the iron by electric processes.

Copper ores have also been found in several localities—on the Grassy River, on Lake St. Martin, on the Hole and Bad Throat Rivers—and the geological formation of the vast areas of sandstone lying east and south of Lake Athabasca is such that if igneous extrusives be found associated with the sandstones, native copper may be a valuable constituent of these rocks. Farther north, on the Coppermine River, beyond the limits of the provinces, native copper has been found in rocks of a similar character. We might easily add to such a list, but only by describing isolated occurrences, which mean but little in the tabulation of the mineral wealth of the provinces. They will play their own part, however, in attracting the prospector into districts where careful systematic investigation is required before anything beyond the merest generalities can be said about the latent possibilities. For not one area has been geologically surveyed in any detail, and the whole region lies in country marked as unprospected. It must not be forgotten that only by actual railway cuttings was the wealth of Sudbury or of Cobalt brought to light.

Few people realize that though Canada now occupies so prominent a place as a producer of nickel and of silver, and although her copper, gold, and iron resources are so extensive, more than 50 per cent. of the total value of minerals produced is to be classed under non-metallic products; or that Manitoba, which few have yet begun to regard as a mining province,

produces over \$2,400,000 in non-metals per year, a figure which is no index of the possibilities in this direction. We will now consider this second great class, the non-metallic products, found in association with the sedimentary flat-lying rocks which underlie the soil of the great prairie regions of the Canadian West. The following classification would include all such deposits:

(a) Fuels and allied products (coals and lignites, tar, oil and gas, peat); (b) structural materials (building stone, limestone for purposes of Portland cement, lime and rubble, sand and gravel, clays and shales for brick, sewer-pipe and refractory materials, gypsum for plaster); (c) ungrouped materials, such as salt, sand for glass manufacture, and a few metallic minerals associated with the sediments, as the placer gold of the rivers, and the clay ironstones sometimes found with the coal measures. In discussing these products we will again adopt the chronological order.

At the base of the sedimentary formations of Western Canada there lies a very friable sandstone, known as the Winnipeg sandstone. This is of remarkable purity, and promises to furnish the material for an important glass industry. The stone is exposed at several places on Lake Winnipeg, and good exposures may yet be found between the limestones and the Archæan rocks in Northern Saskatchewan. The sandstone forms the lower beds of the Ordovician system, the higher beds of which are composed entirely of limestones: the upper horizons furnish the building stones of Tyndall, which have been so extensively used in Winnipeg and throughout the West. This is a mottled dolomitic limestone, which has not only proved to be a popular building stone, but has yet a future as a polished ornamental stone. The chief quarries at present in operation are placed round Tyndall, on the Canadian Pacific Railway line east of Winnipeg, but other quarries are now being operated on exposures on Lake Winnipeg. More northerly and more westerly outcrops of the stone are still too far from the railway and from settlement to be available for development, but there is no doubt that the West possesses a valuable asset in the stone, the true importance of which will only be appreciated when wood gives place to more permanent material for building and other purposes.

The only other building stone at present quarried in the three provinces is the sandstone of the highest rock-formation, which is operated near Calgary.

The succeeding geological formation—the Silurian—is chiefly exposed in Manitoba, more particularly directly north of Winnipeg. The stone—a dolomitic limestone—has not yet been used to any extent as a building stone, but the quarries of Stonewall produce rubble and a magnesian lime. Extensive outcrops of this formation, considerably farther north, may yet provide a suitable building stone.

The only beds of gypsum occurring at the surface in the Prairie Provinces are found in the Silurian; and the gypsum deposits near Lake St. Martin find extensive use in the manufacture of an inside plaster. The beds cover an area of about 8 square miles, there is practically no surface capping, and depths of 20 ft. are at present being quarried. The total depth of the deposit is probably 60 ft. These will continue to form the only available gypsum deposits in the West until those in British Columbia are exploited. The beds that occur in the Ordovician in the Red River Valley are over 300 ft. below the surface. There is no doubt that a ready market will always be found throughout the West for the manufactured products of the Winnipeg mills.

Above the Silurian lies the Devonian, developed on both sides of Lake Manitoba and Lake Winnipegosis, and stretching north-westwards to the basin of the Mackenzie River. Though exposed mainly in Manitoba, the Devonian outcrops in a belt lying across Northern Saskatchewan and passing over into North-Eastern Alberta. It is a limestone with a high percentage of magnesian carbonate, except in certain localities, where a practically pure limestone is obtained. The dolomitic limestones may be used in the future for lime and probably for building purposes, but the pure limestones are already supplying an important need. The market for a good Portland cement in the West is an extensive one, and is growing rapidly. Till within recent years all the cement has been imported, and heavy freight rates have kept the prices high. But the time has come when the West is in a position to supply its own markets, and cement factories have for some time been established in Western Alberta, with Calgary as the centre of the

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industry, and more recently mills have been placed in Winnipeg. For the latter mills the non-magnesian limestones of the Devonian will supply the necessary limestone ingredient, and the quantity of material is sufficient to meet all future development in this direction.

The Devonian limestones are in places pitted with sodium chloride to such an extent that the waters issuing from these beds have a rather high concentration of common salt. In former years salt obtained by evaporation from these waters supplied the Winnipeg market, but the industry has been discontinued. The fact that potash is associated with the salt of this formation may render the resuscitation of the business a profitable undertaking.

The extensive surface formation of the Prairie Provinces is the Cretaceous. It extends westwards from the escarpment of the Pembina, Riding, Duck, and Porcupine Mountains throughout the major portion of Saskatchewan and Alberta, buried in places under Tertiary deposits, and to a large extent covered by a coating of glacial drift. The intervening geological formations between the Devonian and the Cretaceous have not been found on the plains, though an almost complete geological sequence has been made out in the Rocky Mountain system further west. Thus the Carboniferous, the coal-bearing series of the Nova Scotia and the Pennsylvania fields, is not known to outcrop between the Devonian and the Cretaceous in the plains; and the indications from the folded strata of the Rockies, where rocks of Carboniferous age have been identified, point to an absence of coal measures in the Carboniferous, wherever it may yet be found in the West. But what has been withheld in the Carboniferous has been bountifully supplied in the Cretaceous, and the lignites and coals of Cretaceous and Tertiary measures in the western plains are the most important economic product of that area to-day. The Cretaceous contains another fuel in the oil and gas of the Albertan fields, and a brick material in the various shale formations of which it is built. Altogether, there is no geological formation in the three provinces which can to-day compete, or is likely in the future to compete, with the Cretaceous as a mineral producer.

The outcrops of the basal beds of the Cretaceous—the Dakota sandstone—along

the Athabasca River have long been known as the "Tar Sands." These sandstones have served as retaining layers for the oils which have most probably ascended from the Devonian strata; and where the sandstones are exposed, the more volatile constituents have escaped and left the bituminous material behind. Apart from their value for street purposes (it has been estimated that there are 28.4 cubic miles of tar sands in this locality), they indicate that oil may yet be obtained if suitable positions for boring can be found—sufficiently far from the outcrop to obviate the possibility of leakage, and yet sufficiently near to avoid the necessity of too deep boring before the Dakota sandstone is reached. Investigations carried out by the Geological Survey and by private companies have shown that both in the Athabasca River and in South-Western Alberta (though here to some extent in what are probably pre-Cambrian rocks), indications of oil are sufficiently good to justify the hope that Alberta has a future as an oil country. The majority of the borings in Central and Southern Alberta have not reached the Dakota series, but, more especially in the district round Medicine Hat and more recently near Edmonton, large quantities of natural gas have been obtained. In Medicine Hat itself, and in several towns in the vicinity, gas is used as a fuel, not only in houses but also where large supplies of power are needed. The greatest pressures have been obtained where bores are sunk to a depth of 1,000 ft. or more, and the flow has reached in some cases 3,000,000 cub. ft. per day. Extensive borings have been carried out by the Canadian Pacific Railway between Medicine Hat and Calgary, and everywhere with considerable success. Although large flows have only been obtained in this area, and, according to recent reports, near Edmonton, gas has been obtained in lesser amounts in several districts in Saskatchewan and South-West Manitoba; and as the Niobrara shale everywhere underlies the upper shales and the surface clays, it is legitimate to hope that a large part of the Prairie Provinces may yet be supplied with a cheap and serviceable fuel in the form of natural gas.

The coals belong to four different horizons—the Kootanie coals of Bankhead, the Belly River coals of Lethbridge, the Edmonton beds of Edmonton, and the Laramie series of the Souris River Valley

and of Turtle Mountain, Manitoba. Of these the lowest, the Bankhead beds, are the most highly anthracitic, not because of their greater age, but because they have been more especially affected by the mountain-building forces that elevated the Rockies in early Tertiary times. Owing almost entirely to its coal production Alberta has rapidly risen within the last decade to the fourth position among the provinces of the Dominion as a mineral producer in 1910. In 1911 her position was fifth, but the falling off was due to labour difficulties in the West. When it is borne in mind that the available coal in the province, classing anthracites, bituminous coals, and lignites together, is well over 400,000 million tons, it can be easily understood that the coal industry in Alberta is yet in its infancy. The production of Saskatchewan has been entirely from the Souris coalfield of the Estevan district, supposed to contain some 50,000 million tons of lignite. The lignites find a market locally and in Winnipeg. In Manitoba development work has as yet been confined to the private efforts of a few farmers. Turtle Mountain has been estimated to contain 330 million tons of lignite.

We may consider the shales of the Cretaceous and Tertiary formations together with the clays of glacial and postglacial age from the point of view of the brick and tile industry. The Pierre shales of Manitoba and Saskatchewan, the Belly River and Edmonton shales of Alberta, and the Laramie shales of the Souris Valley and the Dirt Hills of Saskatchewan are finding an ever-increasing use as a material for brick manufacture. The delta deposits associated with the silt of the glacial Lake Agassiz, and floodplain deposits of later age, have long been used extensively in Manitoba, while the river-clays of the Saskatchewan furnish the materials at Prince Albert, Saskatoon, and Edmonton. With the shales a stiff mud process is usually employed, while the clays are treated by a soft mud process. The high proportion of calcareous material usually found in the clays renders it rather difficult in many places to obtain a dark red brick, and cream-coloured bricks are widely used. The extent of the clays and shales in the West is enormous, and as the country gradually acquires its stable population the development of the brick industry will be one of the chief features of industrial progress.

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In the three provinces it is to-day the most widespread industry connected directly with the mineral wealth of the country. Underneath the surface clays of Winnipeg, which furnish the materials for the largest brick industry in the West, are stiff lake clays, 40 to 60 ft. deep, as yet untouched, but which are likely to supply an almost boundless material for future demands, if subjected to somewhat different treatment. The sewer pipe industry is in its infancy in the West, being carried on only at Medicine Hat in the three provinces. Fireclays have not yet been developed, except in British Columbia. Judging, however, from the investigations carried out by the North Dakota School of Mines on the clays of that State, one is induced to hope that the Laramie clays may yet be found to contain sufficient refractory material for firebrick and fairly suitable pottery clays.

Space permits us only to refer in a word to the gravel and sand ridges—the old beaches of the glacial lake, and the eskers formed by river action when the ice was in process of retreat—which now find extensive use in railway construction and as materials for concrete; to the sandpressed brick industry, which shows signs of assuming a much more important position in the next few years; to the gold washings of the Saskatchewan, more especially in the neighbourhood of Edmonton, valued at

\$15,000 in 1901—the year of maximum production—and \$1,850 in 1910; and to the latent fuel supply in the form of vast peat bogs, which the Department of Mines has demonstrated to be capable of being wrought at a profit, and which may yet go

far to solve the fuel problem in the Canadian Middle West.

In conclusion, we cannot more succinctly summarize the present situation than by presenting the most complete statistics available to date:

1911.				1912.			
Value of Production.				Percentage of Total for Canada.			
Manitoba	...	...	...	1,684,677	1.65	2,463,074	—
Saskatchewan	...	...	...	618,379	0.60	1,165,642	—
Alberta	...	...	...	6,404,110	6.26	12,073,589	—

DETAILED STATEMENT FOR 1912.

				Manitoba.	Saskatchewan.	Alberta.
				\$	\$	\$
Calcined gypsum	...	...	...	481,250	—	1,775,898
Cement	...	...	...	16,068	—	1,356,184
Clay products	...	...	...	1,018,051	332,943	166,520
Lime	...	...	...	168,257	1,440	139,952
Sandlime brick	...	...	...	294,700	207,671	81,391
Stone	...	...	...	383,095	—	8,113,525
Coal	...	...	...	—	368,135	289,906
Natural gas	...	...	...	—	—	1,509
Gold	...	...	...	—	—	148,704
Other products	...	...	...	101,653	255,453	—
				2,463,074	1,165,642	12,073,589

COAL AND COAL MINING

By J. T. STIRLING, PROVINCIAL INSPECTOR OF MINES, ALBERTA, AND JOHN BLUE, B.A.,
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THE coal industry of the Prairie Provinces is chiefly, almost entirely, confined to Alberta, a province which authorities agree contains one of the largest coal-fields in the Western Hemisphere. The importance of such an inexhaustible supply of fuel in close proximity to the treeless prairies is one of the most important economic factors in the development of Western Canada.

The wide distribution of coal throughout the province attracted the attention of all the early explorers of the West, but it was not until the advent of the railways that coal mining became an industry of com-

mercial importance. The building of the Canadian Pacific Railway through the mountains led to the discovery of coal near Banff in the year 1888 on the Cascade River, at a spot opposite to that upon which the Bankhead Mines are now situated. The mines at Canmore were opened in the same year. Coal mining commenced at Lethbridge during the year 1886, and at Medicine Hat during the year 1887. The development of the industry in the Edmonton district has followed closely the growth of settlement and the rise of the city of Edmonton, and shipments from this district commenced when the Calgary and

Edmonton railway was built into Strathcona in the year 1892.

The construction of the Crow's Nest Branch of the Canadian Pacific Railway in the year 1899 opened up the largest coal-field at present in the province, and one which has developed into the greatest producer.

It is difficult to realize the immense area underlain by the coal-bearing measures in this province. Mr. D. B. Dowling, of the Geological Survey of Canada, in a recent exploration of the prairie coalfields shows that there are four coal horizons, all more or less productive, extending from the

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International boundary to the Peace River. Each horizon produces coal of different qualities according to the difference in age and to the distance from the mountains. The mountain-building forces have hastened the process of changing lignite coals into the bituminous and anthracite varieties, especially where the strata is nipped in the folds of the rocks. An estimate of the content of the area that has been explored, comprising about 17,000 square miles, is placed by geologists in the neighbourhood of 90,000 million tons.

At the present time the coal industry is carried on in the following sections or districts: Crow's Nest Pass, Lethbridge, Taber, Canmore and Bankhead, Calgary, Edmonton, Morinville, Tofield, Brazeau, and Jasper Park.

Crow's Nest Pass District.—In the Crow's Nest Pass district two classes of coal are mined from different horizons. At Coleman, Lille, and Passburg steam coking coal is found in the lowest of the Kootanie formation, and ranks as one of the best of our Canadian steam coals. A few miles east, about Lundbreck, a high-grade lignite is found. This is a much younger coal, and the formation is much disturbed owing to the soft nature of the adjoining rocks.

Lethbridge Field.—The mines in the Lethbridge and Taber districts may be said to be in the same field; the coal belongs to the Belly River series and is a lignite of a good quality, and is satisfactory for fuel, and competes successfully in the local market with the higher grades of the Crow's Nest Pass Mines. It is clean to handle, does not coke, ignites and burns freely.

Calgary Fields.—The Canmore and Bankhead mines produce high-grade bituminous and anthracite coals respectively. Most of the output of the bituminous coal is consumed by the Canadian Pacific Railway for locomotive use, while the anthracite finds a ready sale in all parts of Western Canada. Mining operations in this field are complicated by the great disturbances of the strata by mountain building. Until recently, the only mines producing to any great extent were those just mentioned, but within the last year or so mines have been opened and developed at Cochrane, thirty miles west of Calgary; at Bow Centre, south of Brooks, on the main line of the Canadian Pacific Railway; at Carbon, Knee Hill, and Trochu, north-east of Calgary; and at many other points along the Red Deer River. This part of the province is the most recently

settled, and the discovery of suitable fuel in such extensive quantities promises important results.

Edmonton District.—Many small mines have been operated in the Edmonton district for a number of years. Primitive methods were used and little capital invested. Within recent years, however, there has been a great change; several companies have been formed and modern plants installed, but the growth of the city of Edmonton and the surrounding district, which comprises the whole of Central Alberta, takes the increased production, and there is undoubtedly room for much further development to meet the needs of the great and growing community. The coal produced in this field is a lignite of varying quality, but constitutes a splendid domestic fuel, and is found generally in large seams which are easily worked.

The construction of the Grand Trunk Pacific and Canadian Northern Railways westward from Edmonton towards the Yellowhead Pass has recently opened up a new and extensive coalfield. A great deal of prospecting has been done and a large number of claims have been located. In a number of cases, machinery is being installed, and now that the railways have been built a number of mines are producing for shipment. The Jasper Park Collieries, Ltd., which are situated on the main line of the Grand Trunk Pacific Railway at the entrance to Jasper Park, commenced producing at the beginning of 1912, and though now mining 600 tons per day, are quite unable to supply the demands made upon them. Other mines which commenced to produce recently are those owned by the Yellowhead Pass Coal and Coke Company, Ltd., Pacific Pass Coal Fields, Ltd., and the McLeod Collieries,

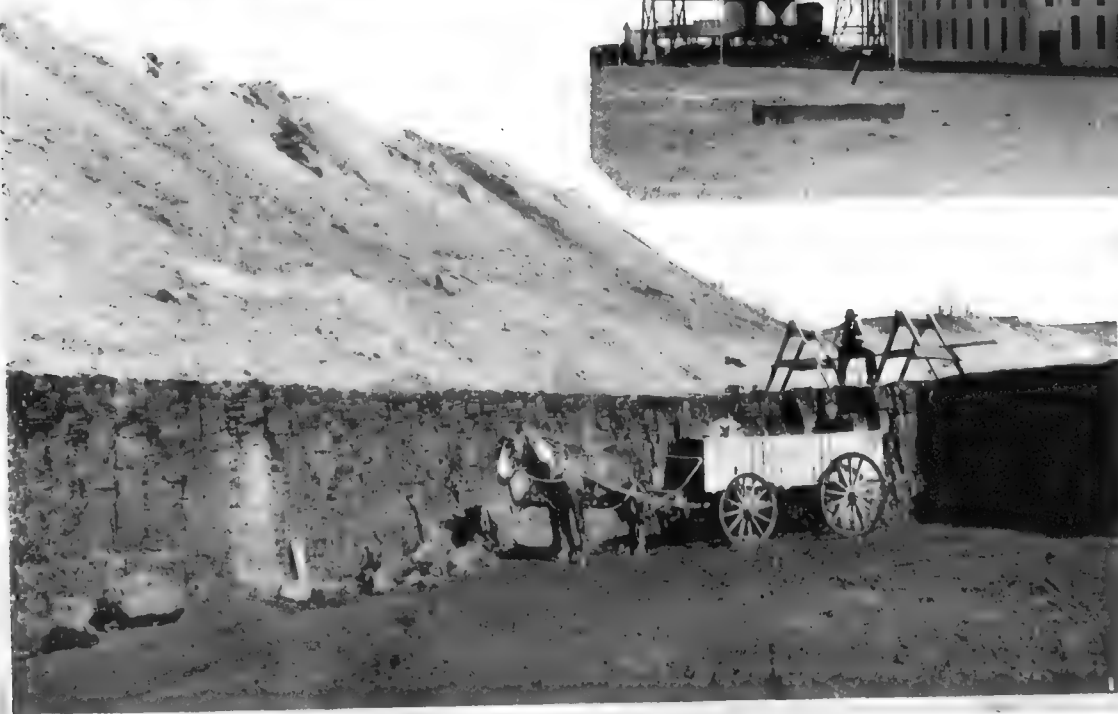
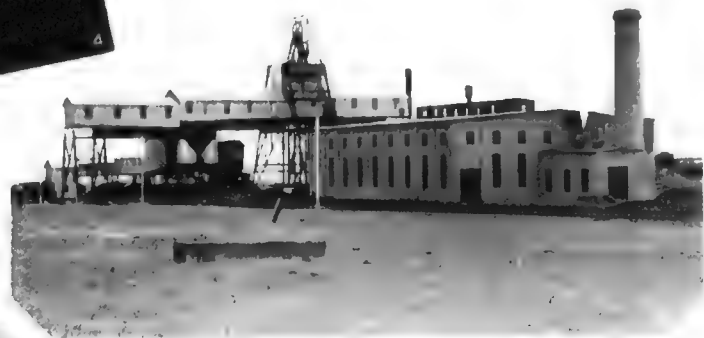
Ltd. These mines are situated along the Albert Coal Branch of the Grand Trunk Pacific, which leaves the main line at Bickerdike and runs south-west for a distance of seventy miles. This branch taps one of the best steam coal-fields yet discovered in the province. This is particularly significant, as up to the present time steam coal for the northern part of Alberta had to be obtained from the Crow's Nest Pass Fields, which meant a haulage of over 300 miles. The mines in this district are at present being equipped for an output of 6,000 tons of coal per day.

The next field of development will be towards the Pine Pass and the Peace River Pass. The transcontinental systems, particularly the Canadian Northern Railway and the Grand Trunk Pacific Railway, are rapidly pushing their lines into Northern Alberta and Northern British Columbia towards the Pacific Ocean. Prospectors are already in the field ahead of them exploring these regions, and by the time the rails reach the mountains many new mines will have been located, and another era of development will follow in due course.

There is an ample market for all the coal produced in Alberta. The output of the mines is restricted only by the shortage of cars and transportation facilities. The great increases of population in the coal-mining districts and the rise of hundreds of villages and scores of towns and cities has created a very extensive source of consumption, and has encouraged a number of companies to engage in the manufacture of coke for supplying the smelters of Southern British Columbia and Montana.

The distribution of the output for the year 1912 is given in tons of 2,000 lb. in the following table:

		Sold for Consumption in Alberta.	Sold for Consumption in other Provinces.	Sold for Export to United States.	Total.
Bituminous coal	... ..	1,453,007	98,559	86,682	1,638,088
Anthracite coal	... ..	21,700	12,589	300	34,589
Lignite coal	... ..	627,539	483,132	6,141	1,116,812
Total sales	... ..	2,102,246	594,280	93,123	2,789,489
Briquettes	... ..	60,000	29,920	80	90,000
Coke	... ..	1,987	96,951	6,706	105,644



1. A COAL BED NEAR EDMONTON.
3. NEW PLANT AT LETHBRIDGE COLLIERIES.

2. COAL MINING IN ALBERTA.
4. AN ALBERTA NATURAL GAS WELL BURNING.

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Greater attention than was formerly given to the question is now being paid to the preparation of coal for the market. Modern machinery is installed in all the larger mines. This is no doubt due to the demands of the market, and also in a great measure to the strict and careful supervision of mining operations by the Provincial Government.

A supplementary industry to that of mining the coal is the manufacture of briquettes. The lignite and semi-bituminous varieties slack easily, and unless something is done to utilize the waste there is considerable loss. Such waste is obviated by the manufacture of slack coal into briquettes. The process involves the compression of the slack into small blocks of varying sizes. Briquettes are cleaner to handle than ordinary coal, and have the advantage of being capable of being stored for an indefinite time.

Government Supervision.—The Coal Mines Act of Alberta gives a large measure of public control over the mining industry. The province is divided into four districts—namely, the Crow's Nest Pass, Lethbridge, Calgary, and Edmonton. In each there is a district inspector of mines who is responsible to the Chief Inspector of the province.

During the year 1906 a commission was appointed for the purpose of investigating conditions regarding wages, hours of labour, and other phases of the mining industry. In the year 1908, legislation was passed limiting the hours of work below ground to eight per day.

In the year 1912 another commission was appointed to investigate all conditions regarding the operation of coal mines, and as a result of its labours made a report in the form of a new Coal Mines Act, which the members of the commission unanimously recommended should be made law. This recommendation was adopted by the Government, and in the Session of 1913 the Legislature endorsed the policy of the Government and passed the Mines Act, which was put into force on the first day of August, 1913.

A large number of improvements have been made in this Act in connection with the better handling of explosives, the granting of certificates, and various other matters.

Haulage.—Practically every known form of haulage is at present in operation in the province—compressed air locomotives, gasoline locomotives, endless rope, main and tail rope, and electric locomotives for varying grades. The latter method, however, is not permitted in the bituminous mines, but is largely adopted in the lignite mines.

In order to reduce accidents from this cause to a minimum, particular attention is also being paid to the method of shot-firing. In the mines in the bituminous and

station to instruct those interested in the use of life-saving apparatus and to conduct practical tests of exploring mines in order that a life-saving corps may be prepared for any emergency that may arise. The Government has established a regular course of training in the use of the apparatus. It is designed to give miners and other persons connected with mining a knowledge of rescue appliances in general and to familiarize them with those types most likely to be used in their own locality.

The purpose of the Government in establishing this system of training is to facilitate investigation within mines in which disasters may occur, and to acquaint operators and miners with the value of breathing apparatus for rescue operations.

District.	Number of Persons Employed.	Lignite.	Bituminous.	Anthracite.
		Tons.	Tons.	Tons.
Crow's Nest Pass ...	2,261	—	1,500,594	—
Pincher Creek ...	122	—	24,222	—
Lethbridge ...	935	624,150	—	—
Taber ...	430	124,795	—	—
Bow Island ...	51	8,654	—	—
Milk River ...	17	2,518	—	—
Banff ...	906	—	256,896	178,589
Medicine Hat ...	147	35,223	—	—
Aldersyde ...	49	11,888	—	—
Carstairs ...	11	—	543	—
Carbon ...	35	8,232	—	—
Drumheller ...	115	14,581	—	—
Three Hills ...	45	7,936	—	—
Lacombe ...	87	12,076	2,000	—
Wetaskiwin ...	154	48,126	—	—
Edmonton ...	503	208,888	—	—
St. Albert ...	60	8,479	—	—
Tofield ...	83	37,241	—	—
Cardiff ...	221	185,337	—	—
Pembina ...	104	3,205	—	—
Yellowhead Pass ...	191	—	28,415	—
Jasper Park ...	134	—	113,701	—
Total ...	6,661	1,341,389	1,926,371	178,589

anthracite fields, all shots are fired by means of electric batteries and by duly certificated shot-firers, and only explosives which are on the British Permitted List are allowed to be used.

The Government has established rescue stations in different parts of the province, and an official has been appointed at each

As a result of this work, it is hoped that in the near future men familiar with such apparatus will be scattered throughout the coal-mining centres of the province and be available on short notice if required.

A railway car is being equipped with appliances required for rescue work. This car will be moved about from mine to mine

	1907.	1908.	1909.	1910.	1911.	1912.
Lignite ...	639,335	584,334	763,673	678,011	964,700	1,341,389
Bituminous ...	939,295	1,011,571	1,197,399	1,896,961	649,745	1,926,371
Anthracite ...	256,115	249,095	413,257	261,785	80,119	178,589
Coal used in coke production ...	112,887	128,397	147,873	196,249	61,591	170,818
Coke produced ...	75,782	75,657	87,812	121,578	35,984	105,684
Briquettes ...	49,585	36,261	89,785	108,996	48,200	90,000

MINERALOGICAL

throughout the Crow's Nest Pass district for the instruction of persons interested in mining in the work of saving the victims of disaster. It will be possible to rush this car at a moment's notice to any mine in which a disaster has occurred.

Statistical Tables.—The first table on page 218 shows the amount of coal mined from and the number of persons employed in the different geographical districts of the province in 1912. While the output from several of those districts is small at present, the rapid settlement which is taking place will be responsible for a large increase in the near future.

The table at the foot of page 218 shows, in tons, the classification of coal produced in Alberta during the years 1907 to 1912 inclusive.

The following table shows the number of miners employed and the amount of coal (in tons of 2,000 lb.) produced, *per capita*, of the workers:

Year.	Gross Tons of Coal Mined.	Total Number of Men Employed.	Tons of Coal Mined per Man.	Number of Men Employed Underground.	Tons of Coal Mined per Man Employed Underground.
1906	1,385,000	2,800	494	2,000	692
1907	1,834,745	3,600	509	2,700	679
1908	1,845,000	3,780	488	2,681	688
1909	2,174,329	5,207	417	3,893	566
1910	3,036,757	5,818	504	4,090	742
1911	1,694,564	6,689	253	4,517	375
1912	3,446,349	6,661	517	4,861	708

OIL AND NATURAL GAS

By GEORGE M. HALL

PROSPECTING for oil has been carried on in Southern Alberta in two different areas within the Pincher Creek District, on the south branch of the south fork of Old Man River and on Oil Creek, which flows into Waterton Lake. No great measure of success has, however, here been attained. In Northern Alberta the Dakota sandstone, where exposed along the Athabaska and its tributaries, is impregnated with a bituminous substance believed to be petroleum product, and it is thought that liquid petroleum exists in this porous rock at some distance from the outcrop. To test the validity of this belief, wells were drilled during the nineties by the Dominion Government at Victoria on the Saskatchewan, at Athabaska Landing, and at the mouth of Pelican River. In the first two wells the Dakota sandstone was not reached, while in the last it was reached at a depth of 750 feet, penetrated about 87 feet, and found to carry maltha, or heavy, tarry petroleum.

Prospecting for gas has been much more encouraging. Practically the entire province of Alberta produces natural gas, and some heavy flows have been tapped. Cities and towns are lighted by this means, while the aid which this natural asset can be made to render to commerce is only beginning to be understood. The boring at the mouth of Pelican River, although disappointing so far as oil is

concerned, proved the presence of a great reservoir of gas in the Dakota sandstones, and heavy flows were struck at 820 and 837 feet. In Southern Alberta, also, gas is found in paying quantities. A good field exists at Medicine Hat, and flows have been obtained at several different points west of that city. At Bow Island a strong flow was obtained.

Thus, while the presence of oil in commercial quantities remains to be proved, boring operations have demonstrated beyond a doubt the existence of large reservoirs of natural gas, and it seems probable that further exploratory work throughout the wide area underlain by the Cretaceous rocks should lead to the discovery of other reservoirs.

It is believed that the Devonian limestone is the source of the gas and petroleum products of Northern Alberta, while the porous Dakota sandstone forms the reservoir into which they have risen and in which they have been retained by the overlying shales. The Dakota sandstone is the productive formation at the mouth of Pelican River, and it is also believed to be the gas-bearing formation at Bow Island in Southern Alberta. As the Devonian limestone and Dakota sandstone are of wide distribution and probably underlie the western part of Manitoba and a great part of Saskatchewan and Alberta, the prospects for the discovery of other gasfields seem

favourable. On account of the great thickness of sediments overlying these formations, however, the driller must be prepared to go to a considerable depth.

The population of the great Western plains is increasing rapidly year by year, and with the increase in population comes an increased demand for light and fuel, so that the finding of a market for oil and gas presents no difficulties—the demand should, in fact, suffice to stimulate the efforts of the drillers.

The Edmonton gasfield extends westward from the vicinity of the 112th meridian to the foothills and northward to beyond the 55th parallel. It rests conformably on the Bearpaw, and a large part of it is overlain by the Paskapoo. The exposure to the east of the Paskapoo is much wider than that to the west, and widens considerably towards the north. It consists of whitish or light grey clay and soft argillaceous sandstone, with nodules and layers of ironstone and numerous coal seams. It is one of the important coal-bearing formations of the North-West. It is a brackish water formation, and corresponds to the lower part of Dr. Dawson's St. Mary's River bed. In Central Alberta it attains a maximum thickness of 700 feet. The lower part of the Laramie of Southern Saskatchewan is correlated with this series. It consists of 150 feet of feebly coherent grey and pure white clays, arenaceous clays and sands.

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with a few beds of carbonaceous shales and lignites.

The Paskapoo series overlies the central part of the Edmonton, and extends roughly from the International Boundary northward beyond the 54th parallel. It includes Dr. Dawson's Porcupine Hills and Willow Creek series and all but the lower 700 to 900 ft. of the St. Mary River series. It is a freshwater formation, and consists of yellowish sandstones and bluish-grey and olive arenaceous shales, with bands of ferruginous sandstone and concretionary blue limestone. In Southern Saskatchewan the upper division of the Laramie is more arenaceous than the lower, and is yellowish in colour. It consists of sands passing into soft sandstone, silts, and clays. The thickness varies a great deal owing to irregularity in deposition and to subsequent erosion. In the outer edge of the foot-hills on Little Red Deer River, a thickness of 5,700 ft. was determined, but the bottom was not seen, and much has probably been removed from the top by erosion. The thickness evidently diminishes a great deal towards the east, for the Hand Hills, which rise 1,000 ft. above the general level of the surrounding country, are capped by Miocene deposits, while the Edmonton series is exposed at their base. The upper portion of the Laramie in Southern Saskatchewan has a maximum thickness of only 750 ft.

When work was started near the mouth of Pelican River in 1897 the bore-hole was carried to a depth of 821 ft. 6 in. that year, while in 1898 it was continued to a depth of 837 ft. After passing through 86 ft. of sand and gravel, 99 ft. of Pelican shales, 280 ft. of Grand Rapids sandstones, and 285 ft. of Clearwater shales, the Tar Sands were met at a depth of 750 ft. and penetrated 87 ft. Small quantities of gas and heavy petroleum were met at different horizons above the Tar Sands. The Tar Sands themselves were found to consist of soft sandstone saturated with heavy

petroleum or maltha. Strong flows of gas were struck at 750 and 773 ft., and at 820 ft. a tremendous flow was struck, the roaring of which could be heard at a distance of 3 miles or more. The flow was so strong that no progress could be made in drilling, and work was abandoned until 1898, when it was thought the force of the gas would be decreased sufficiently to permit of further operations. But though there was a seeming decrease of pressure upon operations being resumed in 1898, this was found to be in a great measure due to the closing up of the outlet at the bottom of the casing by an asphalt-like mixture, composed of maltha or petroleum tar and sand. In fact, when boring operations were resumed on June 17th, the difficulty was found to be intensified by the accumulations of this asphalt-like maltha in the bottom of the bore.

By using smaller casing the hole was carried to a depth of 837 ft., when another flow of gas was met, nearly equal in volume to that encountered at 820 ft. and the work was stopped.

At the present time the city of Edmonton is making a close examination of the Pelican gasfield with a view to piping the gas to Edmonton. These explorations are to cover the whole field of natural gas within reach of Edmonton, and the work will undoubtedly result in

sufficient for the needs of the city may be encountered at a lesser distance.

The gasfield of Southern Alberta has undergone considerable development. Wells drilled at Medicine Hat to depths varying from 700 to 1,000 ft. supply the town with light and fuel. There are also productive gas wells at Dunmore Junction, Redcliff, Stairs, Suffield, Langevin, Bassano, and Bow Island, and in many of these it is believed that the gas veins are encountered in sandstone beds in the Niobrara shales. At Medicine Hat the supply at the depth of 700 ft. was small, but wells sunk to a depth of about 1,000 feet have produced a strong flow of gas. In the first of these deeper wells a flow of 1,500,000 cub. ft. was obtained at a rock pressure of 600 lb. to the square inch. Gas has also been struck at both of these horizons at Dunmore Junction, at a lower horizon at Stairs, and at the upper at a depth of 650 ft. at Suffield. At Langevin gas was struck at about 1,060 and 1,155 ft. and at Cassils at 825 ft. in a brown sandstone.

The most important field is that opened in the vicinity of Bow Island. A statement of the capacities of wells sunk in the Bow Island district furnished to the Geological Survey by Mr. Eugene Coste, president and managing director of the Canadian Western Natural Gas, Light, Heat, and Power Company, Ltd., is sufficiently interesting to warrant reproduction.

No. 1 well ...	...	...	10,000,000 cubic feet per 24 hours.
2 " ...	...	...	7,000,000 " " "
3 " ...	...	...	15,000,000 " " "
4 " ...	...	...	29,000,000 " " "
5 " ...	...	...	1,250,000 " " "
6 " ...	...	...	4,200,000 " " "
7 " ...	...	...	7,000,000 " " "
8 " ...	...	...	12,500,000 " " "

a supply of gas being obtained for industrial and domestic uses in that city. The Pelican field is at present by far the most promising as a source of supply, although there is a possibility that a flow of gas

The pressure in these wells is 800 lb. per square inch. The wells have a depth of 1,890 to 1,930 feet, and gas is struck in three or four streaks in the sandstone of the last 40 feet.





VICTORIA SQUARE, REGINA.

SOUTHERN SASKATCHEWAN



THE province of Saskatchewan, which is the most populous of the three Prairie Provinces, enjoys a well-earned reputation as a wheat-growing country. Within its boundaries land may be found well within the grasp of every type of person, whilst the railways and markets of the province are such as facilitate the work of the farmer.

The grain-growing districts of Saskatchewan are at present mainly situated to the south of the 52nd parallel of latitude, within, that is, the section which for the sake of convenience is here called Southern Saskatchewan. It is at this latitude also that the character of the province commences to undergo a distinct change. To the north the country consists of rolling prairie relieved by clumps and groves of trees. To the south, however, these wooded districts become less and less frequent, and in many parts the province presents a more monotonous aspect. Mile upon mile of bald prairie stretches away into the distance, unbroken by slope or declivity, and often unrelieved by a solitary tree. There are, however, in different parts ranges of low hills intercepted by ravines, many of which, being well wooded, supply considerable

quantities of fuel. The most important of these hills are: The Coteau, including the Dirt Hills, extending from the International boundary west of Estevan to a point beyond the elbow of the Saskatchewan River; the Cypress Hills, south of Maple Creek; Wood Mountain, south of Moose Jaw, near the International boundary; Moose Mountain, north of Arcola; and Last Mountain, Touchwood and Beaver Hills, north of the Qu'Appelle Valley. Of these the Beaver Hills and Moose Mountain have been held from settlement by the Government as timber and game preserves. There are also a large number of lakes which help to beautify the country, and which provide excellent facilities for fishing and other aquatic sports. Of these the Qu'Appelle Lakes, in the Qu'Appelle Valley, are rapidly becoming popular with holiday makers, and yearly entice numbers of campers to their shores. Last Mountain Lake, a short distance north-east of Regina, is also an attractive spot, while the waters of Little Manitou Lake, to the north of Watrous on the main line of the Grand Trunk Pacific, have recently been found to possess considerable medicinal value.

Unprepossessing as the vast plains of Southern Saskatchewan may appear, it is proved beyond all doubt that they are almost unequalled in their grain-growing power, and recent statistics show that the

average yield per acre greatly exceeds that of grain districts in the United States, and even Manitoba. At Indian Head, where for many years the Dominion Government has maintained an experimental farm, the average returns have been consistently greater than the returns from the experimental farms owned by the Government in other districts. There is no reason to suppose that these results are due to superior management. The grain belt extends from some distance south of the Canadian Pacific Railway's main line to the neighbourhood of Saskatoon. Outside these limits, however, there are districts where wheat and similar crops are grown with the utmost success, just as within the grain belt are found districts where mixed farming and stock raising flourish. At several points in the south-east of Saskatchewan mixed farming is coming into its own, notably at Moosomin, Wolseley, and similar places. Stock raising, which at one time was the chief agricultural industry of Southern Saskatchewan, has of late years decreased in importance, wheat growing proving a greater attraction to the farmer. Certain districts, however, are still largely given over to the cattle rancher, notably in the extreme south-west of the province, a district comprising approximately 25,000 square miles, and in the Touchwood Hills lying north-east of the Last Mountain Lake.

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The raising of sheep is also confined to the south-western part of the province, in the districts adjacent to Maple Creek and nearby places. This is a branch of agriculture to which the Dominion Government is now lending its aid by co-operating with the Wool Growers' Association of Alberta and Saskatchewan. The services of a Government sheep specialist have been placed at the disposal of the association, and two expert woolsorters, one for each province, have been provided to take charge of the sorting at the shearing sheds. It is proposed, further, that for 1913, 25 per cent. of the freight charges on consignments of wool to the London market shall be paid by the Government. In South-Western Saskatchewan both cattle ranching and sheep farming are aided by the Chinook winds, which render the climate less rigorous and allow the stock to winter on the open range.

While Southern Saskatchewan is not rich in minerals as compared with Alberta and British Columbia, it nevertheless has deposits that are of considerable value and warrant close attention. In the south-east, in the vicinity of Estevan, large quantities of lignite are found, and coal mining has been helped by excellent railway facilities. Many tons are shipped annually to stations in other parts of Saskatchewan and to Manitoba. The lignite-bearing areas extend from Roche Percée in a north-easterly direction to the elbow of the South Saskatchewan River. Traces of lignite have also been found in the great central plain bounded by the north and south branches of Saskatchewan River. Seams of bituminous coal underlie the country adjacent to Maple Creek, where a flow of natural gas has been discovered at a depth of about 1,200 ft. This latter mineral also occurs in the neighbourhood of Weyburn.

Mention should be made of the developments that are taking place in South-Western Saskatchewan. Here a vast area is at present untraversed by the railway, and thousands of acres are lying undeveloped. The railway companies, however, are now building lines from South-Eastern Saskatchewan which will traverse this district and connect with lines at Swift Current, Regina, and other places on the main trans-continental line. This section of the country is watered by numerous small streams, and, with the completion of transportation facilities, should contribute its full share to the wealth of Saskatchewan.

Regina.—Situated on the main line of the Canadian Pacific Railway, 357 miles west of Winnipeg and 490 miles east of Calgary, Regina holds an important position in the political and economic life of Western Canada. At a very early stage in its history the town became the capital of the old North-West Territories, and in 1905, upon the formation of the provinces of Alberta and Saskatchewan, was chosen as the seat of Government for the latter province.

When the Canadian Pacific Railway built its line through Eastern Saskatchewan in 1882, the site of Regina was virgin prairie, unoccupied save by roaming bands of Indians and an occasional hunter. With the railway came a few settlers; but Manitoba and the United States were then proving more attractive than the comparatively unknown wilds beyond, and the settlement of Saskatchewan proceeded but slowly. From 1882 to 1897 the growth of Regina was almost imperceptible, manifesting itself merely in two or three small business blocks, a very few moderate-sized residences, a railway station, a police station, the Government buildings, and, some distance away on the prairie, the barracks of the North-West Mounted Police. The building of the Qu'Appelle, Long Lake, and Saskatchewan Railway, which intersected the Canadian Pacific Railway at Regina, made the town the distributing point for a large area, these two lines being the only railways in the province. Thus were laid the foundations of the large wholesale business which is to-day transacted in the capital city of Saskatchewan.

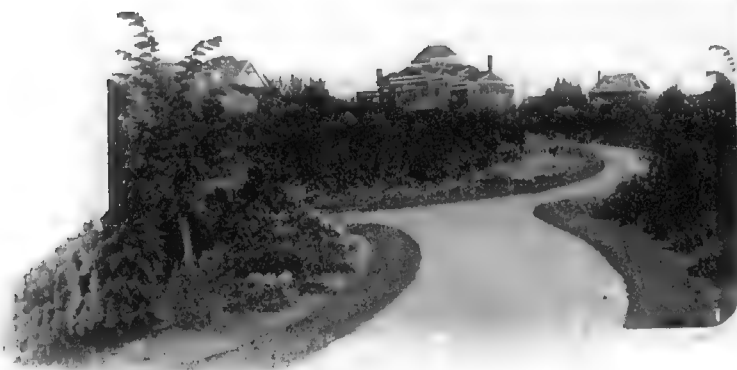
There was no movement of a decisive nature until late in the nineties, and even in 1901 the population numbered only 2,249. In 1903 Regina was incorporated as a city, and by 1906 the population had trebled. Then commenced the flood of immigration which for the past six years has surged across Western Canada, developing its lands and building up its cities. Already well known as the seat of Government in Saskatchewan, it was but natural that Regina should be the destination of a large proportion of the new arrivals, and to-day the population is in the neighbourhood of 40,000.

In making their plans for Western Canada the railway companies did not overlook the claims and advantages of the city, and to-day lines of railway diverge in eight different directions. These include

the Canadian Pacific Railway's main line east and west, a line south-east into Southern Manitoba, and a line north-west to Saskatoon via Young; the Canadian Northern's Regina-Saskatoon-Prince Albert line, and the same company's main line to Winnipeg; and two lines of the Grand Trunk Pacific Company, one of which runs north-east to Melville and Yorkton, and the second south-east towards the International boundary. Other lines are also under construction or projected. The Canadian Pacific Railway and the Canadian Northern Railway share a large station, but the Grand Trunk Pacific has announced its intention of building a station of its own at a cost of approximately \$500,000.

The rapid rise of Moose Jaw, which is comparatively close to Regina, has undoubtedly had the effect of hindering the progress of the capital city to some extent, while Saskatoon has also provided a certain competition. But for this Regina would probably have ranked as the second city in point of magnitude in the Prairie Provinces. The city is keeping well ahead of its rivals, however, and appears to be in no danger of losing its leading position in Saskatchewan.

Hitherto the skyscraper has not made its appearance in Regina, the commercial buildings of the city being more artistic but less imposing than those usually found in Western Canadian cities. With one or two exceptions even the banks have built their homes on a more modest scale than usual. In 1914, however, the city will possess two ten-story buildings which are now in course of erection. The public buildings are of a substantial nature. The home of the Provincial Government is the largest of any of the Provincial Government buildings in Canada, and, modelled on the English Renaissance style of architecture, offers a pleasing and dignified appearance. Built of limestone, the edifice is in the form of a cross, 542 ft. long and 280 ft. across at its widest part. In the centre a dome rises to a height of 187 ft. and is covered with burnished copper. The building stands in the Government Park, of which the beautifully treed grounds slope down to the banks of Wascana Lake. The Post Office, a substantial and handsome building, is centrally situated and conveniently arranged, while of the municipal buildings the city hall is one of the finest in Western Canada. One of the main attractions, both to the resident and the tourist, is the Dominion Fair Grounds and



1. CRESCENT PARK, MOOSE JAW.

3. THIRD STREET, WEYBURN.

2. MAIN STREET, YORKTON.

4. THE QU'APPELLE VALLEY.

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Exhibition buildings. These occupy an area of one hundred acres, and during the annual Dominion Exposition are well filled with agricultural implements and farm produce. A large racecourse surrounds the grounds and the grand stand affords accommodation for many thousands. To the west of the town are the barracks of the North-West Mounted Police, the scene of the execution of the rebel Louis Riel in 1885.

The city is strongly in favour of the municipal ownership of public utilities. The street railway, when the projected extensions have been consummated, will serve every part of the city. Water is obtained from springs situated eight miles away, where a dam and reservoir have been constructed with a capacity of over 100,000,000 gallons. There are two intermediate storage basins situated about three miles from the reservoir and having a capacity of 65,000 and 1,000,000 gallons respectively, while two further storage basins at the power house have a capacity of 150,000 and 500,000 gallons respectively. The system which conveys the water to the city consists of a 15-in. pipe from the reservoir to the intermediate storage basins, and two cast-iron mains of 10 in. and 18 in. diameter respectively which lead from the intermediate basins to the city. The pumps are designed to maintain a pressure of 120 lb. per square inch in case of fire, the normal domestic pressure being 60 lb. per square inch. In addition there is in process of construction a five million gallon reservoir. About 3,000 houses are connected with the water mains, and the system is being very largely extended. The rate, which varies according to the size of the house, is approximately \$16 per annum. The cost of electric light is 7 cents per hour for the first 300 kilowatt hours, and 6 cents per hour subsequently. Electricity for power purposes is supplied at 5 cents per hour for the first 300 kw. hours; 4 cents per hour for from 300 to 600 kw. hours; and 3½ cents per hour for all in excess of 600. Arrangements are being made for the erection of a new power house, which with its equipment will cost about \$425,000.

An extremely comprehensive system of sewers is now practically complete, the mains being planned in such a way that branch sewers can be easily laid and connected as the expansion of the city requires. All sewage is treated at the disposal works

before being discharged into Wascana Creek.

Although Regina has not been chosen as the home of the Provincial University, it is nevertheless excellently endowed with educational facilities. Scattered throughout the city there are six public schools, where a sound if elementary education is imparted to children, and one separate school. More advanced courses are given at the Collegiate Institute, in connection with which, it should be noted, no tuition fees are required. There is also the Regina College, in which are included a Conservatory of Music in which twelve teachers are engaged, a commercial college, and an academic department. A normal school affords a thorough training to teachers. Of the two General Hospitals to be found in the city, one is controlled by the Council and the other by the Grey Nuns. The charges at each are identical—viz., public ward, \$1 per day; semi-private ward, \$2 per day; private ward, \$3 per day. The first named can accommodate 100 patients, and the latter from 75 to 80. There are, in addition, two or three private hospitals.

All of the more popular religious denominations are strongly established, the Anglican probably having the most followers. The Presbyterian, Methodist, and Baptist denominations, however, are well represented. There are five Anglican churches, four Presbyterian, four Methodist, four Baptist, two Roman Catholic, one Greek, one Lutheran, one Nazarene, and one Evangelical Association church. The Salvation Army is particularly powerful in Regina, where it pursues its work with considerable success.

About 257 acres of land have been set aside for park purposes. The largest of the parks already laid out is Wascana Park, which contains about 45 acres. Situated on the southern shore of Wascana Lake, it is largely patronized by the residents of the city, who take full advantage of the boating and bathing facilities. In the centre of the city 7 acres have been laid out in the form of ornamental gardens, which bear the name of Victoria Park. All manner of games are played in Dominion Park, which consists of 8 acres.

The large wholesale business conducted in the city has induced eleven banks to establish branches there—viz., Bank of Montreal, Union Bank of Canada, Imperial Bank of Canada, Bank of Ottawa, Bank of

Commerce, Northern Crown Bank, Sterling Bank, Dominion Bank, Royal Bank, Bank of Nova Scotia, and the Merchants Bank. The clearings for 1911, amounting to \$73,032,088, were during 1912 increased by nearly 60 per cent., the total for the latter year being \$115,727,647.

The Board of Trade states that there are openings for factories of every description. The localization of industries, which may so frequently be seen in older countries, is practically absent in Western Canada, the majority of the cities, as in the case of Regina, being of too recent a growth for any one branch of industry to become centralized there. Consequently in Regina are found numerous factories for the manufacture of goods widely different in character, and varying from account books to beer, from soap to tools. All, however, are conducted with satisfactory results. The city authorities are anxious to attract new industries to their town, and have set aside 320 acres of their property as an industrial district. The section is served by spur tracks connected with the Canadian Pacific, Canadian Northern, and Grand Trunk Pacific Railways, and the city will sell sites to manufacturers and wholesale firms at a figure considerably under their market value, provided the property is developed within one year of purchase. A number of firms have already taken advantage of this offer.

Moose Jaw.—According to an Indian legend, the unusual name of Moose Jaw has its origin in an incident that occurred many years before the Dominion was traversed by the railway, and when the prairies were still the hunting grounds of the Indians. A nomadic Englishman, reputedly a nobleman, camped on the banks of the river at the spot where the city now stands, and for lack of better material mended the wheel of his cart with the jaw of a moose. Thereafter the Indians described the spot as the place where the white man mended his cart with the moose's jaw, and when settlers commenced to congregate in the vicinity the name of Moose Jaw was formally adopted.

The city lies practically midway between Winnipeg and Calgary, in the middle of a great wheat-growing belt, and is a divisional point on the main line of the Canadian Pacific Railway. Steel was first laid through the town in 1885, and for some years Moose Jaw was little more than the home of the few railroad-men em-



1. RIVER STREET, LOOKING WEST, MOOSE JAW.

3. HIGH STREET, LOOKING EAST, MOOSE JAW.

2. MAIN STREET, MOOSE JAW.
4. C.P.R. STATION, MOOSE JAW.

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ployed by the Canadian Pacific. With the development of the grain-growing areas in Southern Saskatchewan the town became the centre from which the surrounding agricultural communities drew their supplies, and there was gradually evolved the large wholesale business which is to-day the mainstay of the town.

Partly as the effect and partly as the cause of the enhanced commercial importance of the town came the development in transportation facilities and the construction of lines of railway radiating in all directions. In addition to its main trans-continental line the Canadian Pacific Railway is operating a branch which runs south-east and joins an important American line at Portal, on the International boundary. Another line, owned by the same company, runs north-west, connecting with various lines that radiate from Saskatoon, while a third line runs south-west to a point to the south of Johnson's Lake. The Canadian Northern Railway operates a line from Moose Jaw to the south-east of Saskatchewan; this line, after making a wide detour, connects with its main line to Winnipeg. Several other lines are being built into the town, and when the construction at present in hand is complete Moose Jaw will have nine or ten direct railway outlets. A glance at the map will show that to the south-west is a very large district almost entirely unserved by railways. This district is eminently suited for cattle ranching, and when efficient transportation facilities have been provided, as they will be, it should contribute very largely to the wealth of the city. Doubtless, however, a share of this trade will be absorbed by Swift Current. The position of the city and the policy of the railways should ensure a continuance of the progress of the past few years. That these developments have been on a par with the progress made by other Western towns may be judged from the increase in population, which has risen from 1,558 in 1901 to about 25,000 in 1913.

The stranger, as he leaves the railway station, cannot fail at once to notice the spruce appearance of the town, with its wide well-paved and well-kept streets flanked by buildings pleasing in design and imposing in their solidity. One or two tall buildings have been erected, but the skyscraper, as found in Winnipeg and Vancouver, has not yet made its appearance. This is partly due to the conservative values placed upon real estate in the business centre, which

allows a moderate-sized building to return a fair remuneration. During 1912 many substantial business blocks were erected, and many stores, office buildings, and residences are under construction. Among the public buildings deserving special mention are the Post Office, erected at a cost of \$250,000, the Saskatchewan College, which has cost \$130,000, the St. Andrew's Presbyterian Church, the Zion Methodist Church, the home of the Young Men's Christian Association, and the Prince Arthur School. Even larger and more costly are some of the premises which have been erected during the past two years by prominent commercial corporations.

The Saskatchewan College and Prince Arthur School mentioned above are only two of the scholastic institutions of Moose Jaw. Eight public schools are to be found in the town, while the Presbyterian denomination has chosen Moose Jaw as the home of its first residential college for boys.

To the public schools are attached grounds to the extent of 50 acres, and the collegiate institute referred to as Saskatchewan College has a further 10 acres. While the school playgrounds afford recreation for the young, the physical needs of the adult population have not been neglected, and the city authorities have laid out parks, boulevards, and open spaces with unsparing hands. Three parks lie within the city limits, River Park being a beautiful enclosure of 66 acres, while Exhibition Park and Crescent Park occupy respectively 80 acres and 15 acres. Just beyond the city, and intersected by the Moose Jaw River, is a property of 25 acres belonging to the Moose Jaw Tramway Company. This is being laid out as a park and provided with pavilions and other buildings. Nature has not endowed the southern portion of Saskatchewan with many trees, but the City Council of Moose Jaw are remedying the defect by having thousands of trees planted under the supervision of an expert landscape gardener.

The electric light and water systems have not yet reached the most distant parts of the town. Instances of this description, however, are by no means uncommon in Western Canada, where the population frequently grows at a speed with which the utmost exertions of a municipality are unable to keep pace. The older parts of the city, however, are connected with perfectly efficient drainage and water systems, water being brought from Caron Springs, 22 miles

distant. Extensions are in course of construction which, when completed, will give the town a supply of over 1,000,000 gallons a day, while a dam on Moose Jaw Creek will render available as a reserve for fire protection 24,000,000 gallons.

The large distributing business of which Moose Jaw is the centre has induced many banks to open branches within the town. The Bank of Saskatchewan has its headquarters there. The town has also attracted the attention of manufacturers, and during 1912 several industries were established within its confines. Among them is a motor-car factory in which entirely Canadian cars are being manufactured. This is the first of its kind in Western Canada. There is a plentiful supply of coal 38 miles south of Moose Jaw, while in the immediate vicinity of the town there is an abundance of excellent clay.

Yorkton.—Yorkton is an important town on the Winnipeg-Edmonton line of the Canadian Pacific Railway, and has with justice been described as the commercial capital of North-East Saskatchewan.

The district immediately surrounding Yorkton was first settled upon in 1882 by a party of pioneers under the auspices of the York Farmers Colonization Company, from which the town takes its name. In 1884 a party of Scottish settlers arrived from the Orkney Islands and took up its abode a few miles west of the present town site. Other settlers followed, at first slowly, but after the coming of the railway in 1889 in ever-increasing numbers. For some years Yorkton remained the terminus of the line which now connects Winnipeg with Edmonton. In 1894 it contained, as a village, a population of 215. Six years later, in 1900, the population stood at 600. The village was then incorporated as a town with an assessment of \$321,976. During the ensuing five years the population doubled, and the assessment increased to over \$600,000. To-day, in 1913, Yorkton is the home of about 4,000 people, and is assessed at over \$2,000,000. Thus, although there has been no phenomenal rush of settlers as in the case of Saskatoon or Moose Jaw, no extraordinary increase in the volume of business done, and no boom in its real estate, the town has made a steady and continuous progress, which has not been without its appeal to the business man, the farmer, and the investor.

In addition to its position on the Canadian Pacific Railway, Yorkton is also connected

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with Regina in the south by the Grand Trunk Pacific, the same railway continuing northward and joining the Canadian Northern Railway at Canora. From this point communication will ultimately be had with the Hudson's Bay Railway. The Canadian Northern Railway also possess a charter empowering them to build a line from Regina through Yorkton to connect with the Hudson's Bay Railway.

Originally the district for many miles round Yorkton was the domain of the cattle rancher, and large quantities of steers were annually shipped to market. To-day, however, the cattle rancher is being forced farther and farther away from the town, the attractions of grain growing overshadowing those of stock raising. Many of the farmers combine the two branches of agriculture, and make their cattle return a fair remuneration by means of stall feeding. In the immediate vicinity of the town, however, wheat growing easily leads the way, as the line of elevators near the railway station testifies. Mixed farming is growing in popularity, and market gardening gives excellent returns, all kinds of vegetables—tomatoes, citrons, marrows, and cucumbers—growing in abundance. The price of land varies from \$15 to \$40 an acre according to its quality and situation.

Yorkton is also important as a judicial centre, and the offices of the local registrar of the Supreme Court, the clerk of the District Court, and the sheriff of the district are situated there. Two sittings of the Supreme Court and four of the District Court are held yearly in the town. The town contains also a Dominion Lands Office, a Land Titles Office, and the barracks of the Royal North-West Mounted Police.

As a residential town Yorkton has many advantages, not the least of them being the nature of the surrounding scenery. The park country offers a most pleasing contrast to the flat prairie of the most southerly portion of the province, while York Lake offers facilities for holiday-making that are rapidly becoming known throughout the entire province. A supply of water for domestic purposes is obtained from a series of deep wells sunk in a fine sandy gravel subsoil which serves as a natural filtering bed. An extensive system of mains conveys the water to the residences. The sewerage system is

very elaborate and extremely efficient. Electric light and acetylene gas have also been installed: these public utilities, being the property of the town, are administered by the town council. The town also possesses a good hospital, known as the Victoria Hospital, where a matron, two graduate nurses, and five pupil nurses are in residence. This is the only hospital for many miles around, and Yorkton is duly proud of an institution possessed by far too few towns in the Canadian West.

The town has two public schools and a large Collegiate Institute which was erected at a cost of \$70,000. Of the religious denominations the Baptist, Anglican, Methodist, Presbyterian, Roman Catholic, German Baptist, Hebrew, and Lutheran are all represented, the five former having most substantial churches.

The Bank of British North America, the Canadian Bank of Commerce, the Northern Crown Bank, the Bank of Toronto, and the Union Bank of Canada have all established branches in the town, the two latter having erected substantial buildings of their own.

Weyburn.—Weyburn, an important city in South-Eastern Saskatchewan, is situated at the junction of the Canadian section of the Minneapolis, St. Paul, and Sault Ste-Marie Railway with the Canadian Pacific line running from Winnipeg through Southern Saskatchewan to Lethbridge in Alberta. The building of the latter line has brought Weyburn 175 miles nearer Winnipeg by rail than was formerly the case, and has opened up a large stretch of country for which the town acts as a distributing centre. The line only reached Weyburn in 1910, and is largely responsible for the growth that the city has manifested during the past two or three years. Until 1910 its progress had been more or less continuous but by no means exceptional, the population increasing from 200 in 1903 to 1,100 in 1909. By 1911, however, an additional 2,000 inhabitants had settled in the town. To-day the population stands at 5,345, as shown by a municipal census taken in June 1913. Other railway lines are projected, and when the transportation companies put their schemes into effect Weyburn will be a railway centre of considerable importance. The Grand Trunk Pacific line is now graded into the city and everything is in readiness for the laying of the steel.

The surrounding country is well settled with farmers, who obtain good crops of wheat and other grains, the soil and climate being well adapted to this branch of agriculture. In addition to its grain-producing powers, however, the district has another asset, which, in the form of natural gas, may eventually prove of the utmost value. A flow has been struck at a distance of 18 miles from Weyburn, and there is good reason to believe that investigations will reveal further supplies. The town is also comparatively close to the Souris coalfields, and coal, according to the estimate formed by the Board of Trade, can be laid down in Weyburn at \$2.40 per ton.

With the exception of the telephone, which is controlled by the provincial Government, Weyburn owns the whole of its municipal utilities. The power plant, which is situated in a solid brick building measuring 60 ft. by 100 ft., standing on the bank of the Souris River, generates electricity for power and lighting and for operating the pumps in connection with the waterworks and sewer systems. It consists of a 15 and 30 by 30 cross-compound Corliss engine, directly connected with a 250-kw. alternating generator, a 14 by 24 Corliss engine and 75-kw. generator, and a seven-panel switch-board to control the output.

Water is obtained from a series of deep wells and lateral galleries about a mile from the town, sunk in a fine sandy gravel subsoil, whence it is conveyed to the principal business and residential streets by means of a comprehensive system of water mains. Extensions are being continually made to meet the increased requirements of the inhabitants. For fire purposes a special pump induces an additional flow of 700 gallons a minute above the ordinary flow of the domestic supply, while a gravity pressure water tank of 150,000 gallons acts as a reserve against emergencies. All sewage is carried away by means of a gravity system.

There are no fewer than three hospitals at Weyburn, which in this respect is probably unique among Western Canadian towns of similar size. The old general hospital and a private institution controlled by the Sisters of Charity have become too small for the city's requirements, and a fine new hospital is practically completed, over \$60,000 having been spent in its construction.

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There are three large public schools and an imposing collegiate institute. It is doubtful, however, if these educational facilities will be sufficient for any considerable time.

The city has six churches, the Anglican, Methodist, Presbyterian, Baptist, Free Methodist, and Roman Catholic denominations being represented.

The question of parks has already received the attention of the authorities, and two sites have been obtained. One consists of 35 acres, charmingly situated and intersected by the Souris River. The other, which consists of 20 acres, is the scene of a large annual fair.

The commercial and public buildings are, for the greater part, substantial structures. The banks, as usual, have built themselves handsome homes, the Bank of Montreal, the Home Bank of Canada, the Union Bank of Canada, the Canadian Bank of Commerce, and the Royal Bank of Canada all having branches in the town. Weyburn also has its own financial institution in the form of the Weyburn Security Bank. Other fine buildings are the Post Office, the armoury of the Royal North-West Mounted Police, the Masonic Temple, and the Oddfellows' Hall.

It is interesting to note that Weyburn is the youngest city in the province, a charter having been granted to the former town in the summer of 1913.

Swift Current.—Few towns in Southern Saskatchewan are attracting more attention than the erstwhile village of Swift Current, a divisional point on the main line of the Canadian Pacific Railway. Swift Current has indeed made steady progress since 1906, in which year it was a village of some 200 people, but its growth has been especially marked during the years 1912 and 1913. In 1911 the population was 2,500, but during the following year it increased to 4,350, and at the end of 1913 a census should easily show some 6,000 inhabitants.

This sudden impetus is almost entirely due to the determination of the large railway companies to build lines through the hitherto neglected district of South-Western Saskatchewan, a district in which a huge area is largely devoted to cattle ranching. Swift Current lies near the western boundary of the province, at a distance of 110 miles from Moose Jaw, and the action of the railways must necessarily exercise powerful influence over the future of the

town. At present it is served by the Canadian Pacific Railway's main line, and another line belonging to the same company and running south-west to a small town called Vanguard. A little to the west of Swift Current a branch line of the Canadian Pacific is pushing its way into the territory lying to the south of the Southern Saskatchewan River. These transportation facilities will shortly be very largely increased by the lines of the Grand Trunk Pacific and Canadian Northern Railways. The latter line will materially assist in the development of the country between Swift Current and Moose Jaw to the south of the Canadian Pacific Railway. Swift Current hopes to rank as a city within three years, and appears to be well on the way to achieving its ambition.

Most of the public utilities are owned and controlled by the municipality itself, and for so small a place the amount appropriated for such purposes is surprisingly large. During the four years 1909 to 1912, \$341,869 was expended in improving thoroughfares and installing modern conveniences. The first care of the authorities was the provision of efficient water and sewerage systems, to which about \$150,000 have been devoted. The Dominion Government having granted the necessary permission, the town is empowered to draw water from Swift Current Creek to the extent of 2,250,000 gallons daily. This water is supplied to consumers at the rate of 3½ cents per gallon. The town has grown so rapidly of late that it has been quite impossible to supply every house with water. There are many miles of steel water mains within the town, however, with which about 150 houses are connected. For fire-fighting purposes a pressure of 150 lb. to the square inch is available. For sewerage purposes about six miles of sewer are laid down on what is called the separate system, and the contents are carried to purification works situated about a mile north of the town. The purified sewage is discharged into Swift Current Creek fully 2½ miles below the water intake.

Until quite recently the Council were content with wooden sidewalks and ordinary dirt roads, wisely considering that water and sanitation were of more importance than paved streets. Contracts, however, have now been let for concrete pavements in the central portion of the town, and a steam roller and crushing plant have been purchased in order that the roads may be

macadamized. It is a matter for regret that there is no park in the centre of the town, but to the south the Exhibition grounds occupy 160 acres and include an excellent racetrack. The town also possesses in the outlying suburbs several other plots destined at no distant date to be converted into pleasure gardens.

The power plant and electric lighting system are, like the water and sewerage works, the property of the corporation. The power is generated by a suction gas plant of two units, and is supplied at 12 cents per kilowatt hour.

The education of the children is provided for by two schools, while five churches attend to the religious requirements of the people. A hospital situated on a hill outside the town is owned by the municipality.

Eight banks have established branches in the town, and several manufacturing firms have commenced operations there. Other prominent buildings include two public schools and five churches. The water-works and electric light are municipally owned.

Swift Current is one of the most enterprising and successful of Western Canadian towns, and will doubtless attain considerable prominence in the future.

Moosomin.—Situated on the main line of the Canadian Pacific Railway, a few miles west of the Manitoba boundary, Moosomin is acknowledged to be one of the prettiest towns in the Prairie Provinces. The town stands in one of the most picturesque portions of Southern Saskatchewan, and its natural advantages have been supplemented by the care which its citizens have devoted to the preparing of lawns and gardens.

Commercially the town is not unimportant, being the chief distributing centre for a large mixed farming district. A Government creamery is established here and over 100,000 lb. of butter are manufactured annually. There is also an immense brick-clay deposit about four miles south of the town.

Moosomin now has a population of 1,400. As a judicial centre it has a courthouse, a resident Judge, a sheriff, and a local registrar of the Supreme Court. A large Land Titles Office is in course of erection at a cost of \$50,000, and a detachment of the Royal North-West Mounted Police is housed in the local barracks. The town is also the headquarters of the "A" squadron of the 16th Light Horse, and a drill hall and armoury are being added to its buildings.

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The Town Hall is a fine building, which was erected at a cost of \$40,000, and comprises an Opera Hall, the Post Office, Fire Hall, and Council Chambers.

The water system is based upon an artesian well situated in the centre of the town, and is connected with the principal business and residential sections. Street lighting is furnished in the form of acetylene gas, and an efficient sewerage system does much to maintain a high standard of health.

The public school is exceptionally large, containing eight rooms, employing six teachers, and having 300 pupils on its roll. The High School is also a fine building, and its curriculum leads up to the various teachers' certificates and matriculation. It also includes a special course in agriculture. The five churches are occupied by the Anglican, Presbyterian, Methodist, Baptist, and Roman Catholic denominations. Two banks attend to the financial business of the town, and three elevators provide storage for the grain crops.

Maple Creek.—Maple Creek, which in the days of the Riel rebellions was an important post of the Royal North-West Mounted Police, is situated on the main line of the Canadian Pacific Railway, about 30 miles east of the Alberta boundary. Until 1904 the surrounding country was devoted almost entirely to raising cattle, horses, and sheep, for which the rich grasses and many creeks rendered it peculiarly suitable. Then, however, the grain grower began to acquire the land, and to-day stock raising is rapidly becoming extinct in the district. Although thousands of acres are under cultivation, thousands still await development. Homesteads and pre-emptions are still available, while privately owned land may be purchased at prices ranging from \$15 upwards. The soil is principally of the heavy black and sandy loam varieties, and the climate, owing to the influence of the Chinook wind, is rather more equable than in the districts further east. Good water is available in every part of the district, the average depth of wells being 25 ft., though in the Happyland and Clinworth sections, which lie north of the railway, it is necessary to go as deep as 75 or 100 ft.

The town has a population of 1,800, but this figure will undoubtedly be largely increased in the course of the next few years. Water is brought from springs in the Cypress Hills, a distance of nine miles, by means of a gravity system. The sewerage system, known as the Stod-

dart Distributing, was installed in 1909 at a cost of \$58,000, and carries all sewage to a large sedimentation tank to the north of the town. The finest building in Maple Creek is the Post Office and Customs House, which is closely followed by the General Hospital. There is a substantial and commodious public school. Four large churches, owned by the Methodist, Presbyterian, Roman Catholic, and Anglican denominations, may also be found within the town limits. There are two banks and two elevators.

Broadview.—Broadview is a small town of 1,200 people, situated on the main line of the Canadian Pacific Railway, of which it is an important divisional point. It is stated, in fact, to be the largest divisional point between Winnipeg and Calgary, and indeed the appearance of the railway yards leads the traveller to expect the town to be far larger than it is. However, Broadview has been content to pursue a steady course, combining its duties as a railway divisional point with those of a distributing point for the surrounding country. It was incorporated as a town in 1907, but was in existence as long ago as 1882. Though its population is small its trade is thriving, and the fertility of the farm lands in the vicinity is attracting more settlers each year. The district is one of the few in Southern Saskatchewan that are equally suitable to grain growing and mixed farming, while dairy farming is rapidly coming into prominence.

Large supplies of brick-clay in the immediate vicinity of the town have given rise to the establishment of several brick-making plants, and bricks are exported to different points in Saskatchewan and Manitoba. Ten miles north of Broadview is Crooked Lake, which is a favourite site for summer homes and offers excellent boating and fishing.

The town has one school, five churches, belonging to the Anglican, Presbyterian, Roman Catholic, Methodist, and Baptist denominations, two hotels, and one bank, the Imperial Bank of Canada. The town is illuminated by gasoline lighting, and has good soft water. There are two grain elevators.

Estevan.—Estevan is an important little town of 3,300 people, situated in the extreme south of Saskatchewan, but a few miles north of the United States frontier.

The town owes its prominence largely to the deposits of coal, clay, and natural

gas found in its vicinity. These are being increasingly developed each year. Coal of the lignite variety was first discovered there before the beginning of the twentieth century, but for some time was not mined to any extent. To-day, however, the output amounts to about 300,000 tons per annum.

The clay deposits were not discovered until 1902, but steps were immediately taken to profit by their presence, and the first brick was manufactured at Estevan in 1904. Gas, the third natural resource that is helping to make the town wealthy, was only discovered late in 1911, but sufficient development work has been done to show that the supply is very large.

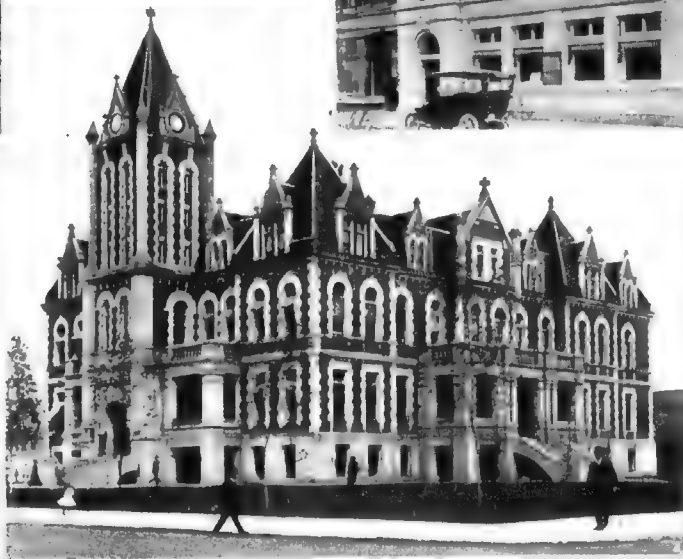
The mineral resources, however, are by no means the only factors contributing to the progress of the town. The surrounding country is closely settled by farmers, and the agricultural returns are eminently satisfactory. Grain growing is the chief branch of farming followed in this part of Saskatchewan, and wheat, oats, flax, and barley are all grown with success. Two or three flourishing market gardens exist in the vicinity of the town, while a large nursery makes frequent shipments of trees and ornamental shrubs to all parts of the province.

The town is excellently served by railways, being the intersecting point for two branches of the Canadian Pacific Railway, and having connections with all parts of the country by means of those lines.

In its public buildings full use has been made of Estevan's resources, many edifices being constructed of locally manufactured brick. The Post Office and the Town Hall, perhaps the most imposing structure in the town, are closely followed by the four schools. The churches are well to the fore, the Methodist, Presbyterian, Anglican, Baptist, Roman Catholic, and Free Methodist denominations all being represented. The Bank of British North America, the Bank of Hamilton, and the Union Bank of Canada are all conducting operations in the town, while the travelling public is catered for by three hotels. A hospital is under construction.

It is only recently that the question of public utilities has been seriously considered. Two trunk sewers have, however, already been laid and a sewerage plant installed. A large water tower with a capacity of 100,000 gallons has been

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1. LAND TITLES BUILDING, REGINA.
4. PORTION OF VICTORIA PARK, REGINA.

2. CITY HALL, REGINA.

3. "LEADER BLOCK," REGINA.

5. Y.W.C.A. LIBRARY AND TELEPHONE EXCHANGE, REGINA.

SOUTHERN SASKATCHEWAN

erected close to the Town Hall, and pipes are now being laid to the residences. The electric light plant supplies light at a cost of 8 cents per kilowatt hour.

Wolseley.—The town of Wolseley is one of the more prosperous of the smaller places on the main line of the Canadian Pacific Railway, and is situated in a district where grain growing and mixed farming are almost equally flourishing industries. To the north, east, and west of the town the greater part of the land is already under cultivation, but to the south there are thousands of acres that have remained undeveloped, and which may be purchased at quite moderate sums. This district is served by the Wolseley-Reston branch of the Canadian Pacific Railway, and is no less fertile than the remainder of the land round Wolseley.

The town itself has a population of over 1,000 inhabitants, and is well supplied with the customary public utilities. The telephone system gives a 24-hour service, and affords communication with nearly every point in the Prairie Provinces. The town is equipped with a large free library, and also houses the fire-fighting apparatus, which includes a gasoline engine and 3,500 feet of hose. A large reservoir in the vicinity, which is kept open in the winter, supplies water to every business section of the town. Electric light is distributed at a reasonable cost. There are six churches, belonging to the Roman Catholic, Presbyterian, Methodist, German Reformed, Baptist, and Anglican denominations, a convent, and a large public school. The Union Bank of Canada, the Northern Crown Bank, and the Bank of Toronto are all conducting business, and two hotels cater for the travelling public. An unusual attraction is the tree and ornamental shrub nursery owned by the Canadian Pacific Railway.

Whilst mentioning Wolseley, something should be said of the valuable clay belt which is to be found within a stone's-throw of the railway station. Some years ago a small brick plant was erected, and it was found that this clay could be made into bricks equal to any manufactured in Western Canada. Though the owner, for personal reasons, abandoned the project after a very short space of time, sufficient bricks were produced from this plant to build the Town Hall and practically every other substantial building in the town.

Another industry for which the town should provide an opening is that of pork packing. In the surrounding country farmers are giving increased attention every year to pig raising, which has proved a most profitable business. It is said that there are more than enough pigs shipped from Wolseley to keep a large pork-packing plant thoroughly busy.

As a distributing centre the town is admirably situated. In addition to the vast territory served by the main line of the Canadian Pacific Railway, the Reston line, running to the south-east and terminating in the town, makes Wolseley the centre of a vast and well-populated farming country. Another line the construction of which is contemplated will link Wolseley with Estevan and Balcarres. This railroad, when made, will place the town in direct communication with Saskatoon, Prince Albert, North Battleford, Edmonton, and other important points to the north-west.

Abernethy, a small town with a population of 275 people, is situated on the Kirkella-Saskatoon branch of the Canadian Pacific Railway, about 327 miles to the west of Winnipeg. The town contains one school and three churches, occupied by the Anglican, Methodist, and Presbyterian denominations. Other buildings include a branch of the Bank of Hamilton and a grain elevator.

Alameda, with a population of 350 people, is situated 130 miles south-west of Brandon. Amongst the more prominent buildings of the town may be mentioned the school-house, a hotel, and three churches. A considerable amount of grain is stored here, five elevators being used for the purpose.

Alask, with a population of 500 people, is situated south-west of Saskatoon, on the branch of the Canadian Northern Railway running from Saskatoon to Calgary. The town contains one school and three churches, occupied by the Anglican, Presbyterian, and Methodist denominations. Other buildings include a branch of the Union Bank of Canada, a hotel, and two grain elevators. The sub-agency of the Dominion lands in Eastern Alberta is to be found in this town.

Arcola, with a population of 850, lies 114 miles south-east of Regina, and is a divisional point on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway. Among the more important

buildings of the town may be mentioned the two schools, the branch establishments of the Merchants Bank of Canada and the Union Bank of Canada, the two hotels, and four churches. Six elevators provide ample storage for the crops of the district. The town possesses an electric light plant and a gravity system of waterworks.

Assiniboia.—Situated on the Weyburn-Assiniboia branch of the Canadian Pacific Railway, Assiniboia lies 111 miles west of the city of Weyburn.

The town was only founded by the Canadian Pacific Railway Company in 1912, and according to the returns made by the local assessor now has a population of over 1,000. This growth is due mainly to the action of the Canadian Pacific Railway in building a large round-house and laying out several miles of siding. At present the surrounding country is largely unsettled, but despite this fact local crops justify the presence of five elevators. It is also a promising sign that no less than three banks have found it worth while to establish a branch in the town—namely, the Union Bank of Canada, the Bank of Toronto, and the Weyburn Security Bank. A good school has been erected, at a cost of \$35,000, and the members of four religious denominations have built suitable churches.

Balcarres, a small town of 400 inhabitants, is situated at the point where the Kirkella-Saskatoon branch of the Canadian Pacific Railway intersects the Regina-Yorkton branch of the Grand Trunk Pacific, 199 miles south of Saskatoon. The town includes a school, two hotels, one bank, five elevators, and three churches.

Canora, with a population of 1,200, is situated on the Winnipeg-Edmonton line of the Canadian Northern Railway, being 303 miles west of Winnipeg. The town is also the terminus of a branch of the Grand Trunk Pacific from Regina. Canora has only one school, but in other respects is well served, both the Canadian Bank of Commerce and the Union Bank of Canada having established branches there, while the Anglican, Presbyterian, and Methodist denominations have built their own churches. Other buildings include three hotels and six elevators, while a hospital is in course of erection. The town has an electric light plant from which electric light is supplied at 15 cents per kilowatt, and is installing a system of waterworks.

Carievale is a small town of 200 inhabitants situated on the Brandon-Estevan

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branch of the Canadian Pacific Railway, 98 miles south-west of Brandon. The town includes a school, a hotel, four elevators, and three churches owned by the Methodist, Presbyterian, and Anglican denominations. The Bank of Hamilton has established a branch here.

Carnduff.—The town of Carnduff is typical of the many small farming towns that are scattered throughout the provinces of Saskatchewan, Alberta, and Manitoba. It is, however, decidedly more progressive than many of its rivals, and is likely to attain considerable popularity during the next few years. Of all the towns with a population of less than 700 there are few that are so well supplied with modern conveniences or so generously endowed with the natural advantages that make for prosperity.

Carnduff is situated in Southern Saskatchewan, on a branch of the Canadian Pacific Railway running from Brandon through Manitoba to the small town of Forward in Saskatchewan. It is about 20 miles west of the Manitoba boundary and 12 miles north of the International boundary. It may be reached from Brandon in 4½ hours.

South-Western Saskatchewan was one of the first sections of the country west of Manitoba to win the favour of the farmer, and the district round Carnduff has been yielding its tribute to the grain markets of the American continent for several years. Wheat has always been the most popular crop with the Western farmer, and the greater part of the farm land is under that grain, though every year part of the land is sown with oats, barley, and flax in order that it may not become too quickly depleted of its fertility. The educational methods adopted by the Dominion and provincial Governments are beginning to bear fruit, and farmers are realizing that if they wish the land to benefit their children they must adopt a system of mixed farming. The Carnduff district is well suited to this branch of agriculture, and the intelligent husbandman who consistently pursues a progressive policy and devotes scrupulous attention to his work may safely anticipate even greater profits than accrue from the more simple occupation of grain growing. Consequently the tendency is towards intensive farming and the preservation of the land's natural fertility. Farmers are now keeping more stock than was formerly the case, and are supplementing

the natural grasses of the district with cultivated varieties. Of these timothy is very prolific and yields from two to four tons to the acre, according to the season of the year when it reaches maturity. Brome grass is grown quite extensively, and its leafy nature renders it excellent for pasture. Recent experiments with clover have proved eminently successful, and every year more and more land is being devoted to this crop. Corn and alfalfa are also coming into favour and yield a most satisfactory profit. The Souris River and the numerous creeks flowing through the district provide splendid facilities for stock raising and dairy farming, and pave the way for a greater and more permanent prosperity than can ensue from the growing of grain. Several farmers have imported herds of pure-bred cattle as well as a few studs of registered horses, mostly Clydesdale, for which there is always a good demand at remunerative prices.

To the farmer to whom the temporary profits and simple character of grain growing appeal more forcibly than the permanent prosperity attendant upon the more strenuous occupation of mixed farming, the district offers facilities that are undeniably attractive. The soil is of a loamy variety with a deep clay subsoil, a quality that has been one of the principal factors in making Saskatchewan the leading wheat-growing province of Canada. Next in importance to the soil are the transportation facilities. The Canadian Pacific Railway gives direct communication with Winnipeg and Fort William, and the Grand Trunk Pacific are stated to be contemplating the construction of a line from Lampman to Sherwood, passing through Carnduff. The local Board of Trade has compiled a comparative statement of freight rates to Fort William which is instructive. From Carnduff the rate is 16 cents per 100 lb.; from Edmonton, 28 cents per 100 lb.; from Lethbridge, 23 cents per 100 lb.; while from Saskatoon and Prince Albert the rates are 24 cents and 26 cents respectively. As land may be purchased in the Carnduff district at from \$20 to \$40 per acre for improved land and from \$18 to \$25 per acre for unimproved land, prices which are in no way higher than in the other districts mentioned, the advantages that Carnduff offers become apparent.

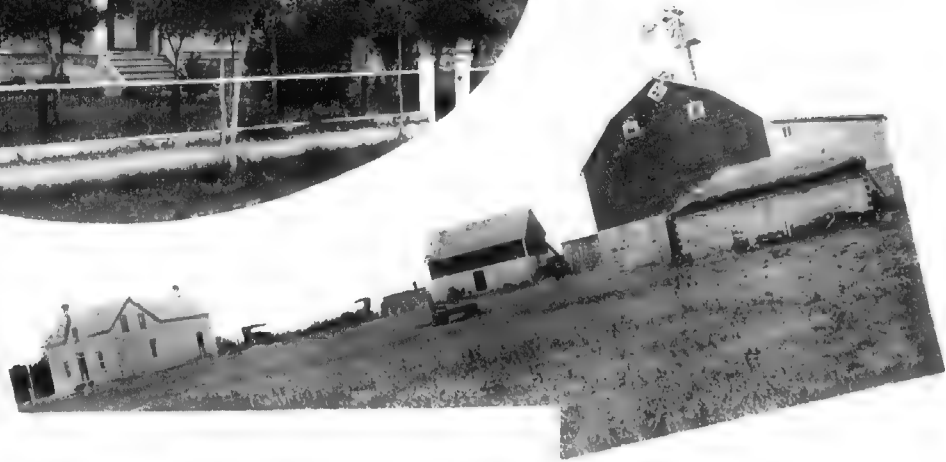
In the town of Carnduff itself may be purchased all the commodities of life that the farmer can possibly require, and during the week-ends or on fair days the social life

of the community offers ample opportunity for recreation and a change from the routine of the farm. The keen competition in all lines of business gives the farmer the advantage of the lowest prices in whatever he has to purchase, while five large grain elevators will purchase or store his grain as he may desire. The larger commercial establishments of the town include a large flour mill with a capacity of one hundred barrels, one creamery station, three general stores, three hardware stores, a furniture store, a drug store, a harness shop, a boot and shoe store, a confectionery store and bakery, a butcher's shop, two live stock dealers, two restaurants, a hotel, two book stores, a jeweller's, a lumber yard, a sash and door factory, a carriage shop, four implement warehouses, three blacksmiths' shops, an automobile garage, a machine shop, a newspaper and printing office, two livery stables, two coal dealers, an undertaker, and a branch of the Merchants Bank of Canada. The town also has a public library and a good club. That professional men can make a successful livelihood in such rural districts as this is evidenced by the fact that within the limits of Carnduff may be found several doctors, lawyers, and veterinary surgeons in active practice.

The district is well supplied with rural schools, so situated that no pupil is far distant from the schoolhouse. These schools are presided over by qualified teachers who have graduated from the provincial normal schools. In the town there is a large public school containing six rooms and a good high school where an extended course of studies may be taken leading up to the second class certificates for teachers or for the University matriculation examinations.

Water is obtained from wells and is of a very good quality. The town is lighted by acetylene gas, the plant, which cost \$9,500, being owned by the municipality. The town telephone system is also a municipal possession, and is connected not only with the systems owned by various rural companies, thus linking up the outlying farms with the shops and doctors, but also with the Government line, by which long-distance communication may be had with the other provinces and with the United States.

The cost of living in Carnduff is as low as in most places in Western Canada. Rents naturally vary according to the size of the house, but for \$20 a month ex-



TOWN COUNCIL, CARNDUFF, SASKATCHEWAN: VIEWS IN AND AROUND THE TOWN.

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cellent accommodation can be obtained. The tax rate is, in the rural section, \$15 per annum for every 160 acres owned by the farmer, and in the town amounts to 2 cents on the dollar. This is quite inclusive.

Carnduff has here been treated at a length which may be considered quite out of proportion to its population of 470. The necessity for a detailed description of a typical farming community of the more prosperous and progressive class is, however, ample justification for the space devoted to the district.

Carlyle, a town of 500 inhabitants, lies 124 miles south-east of Regina, on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway. It is also a divisional point on the Winnipeg-Maryfield-Lethbridge branch of the Canadian Northern Railway. The public buildings of the town include a public school and a high school, while the more prominent commercial buildings include a branch of the Union Bank of Canada, two hotels, and four elevators. In addition to these are three churches which have been built by the Anglican, Presbyterian, and Methodist Churches. Water costs from \$6 to \$15 per house per annum.

Caron is a small town of 300 inhabitants, and lies on the main line of the Canadian Pacific Railway, 16 miles west of Moose Jaw. The principal buildings in the town consist of two schools, a hotel, four elevators, and three churches. The Bank of Hamilton has established a branch here.

Craik, with a population of 450, is situated on the Regina-Saskatoon-Prince Albert branch of the Canadian Northern Railway, 73 miles north of Regina. Two banks have opened branches in the town, and other buildings include a school, two hotels, four elevators, and the three churches owned by the Anglican, Presbyterian, and Methodist denominations.

Davidson is a town of 600 persons, and is situated on the Winnipeg-Regina-Prince Albert line of the Canadian Northern Railway, 91 miles north-west of Regina. Both the Royal Bank of Canada and the Bank of British North America have established branches in the town, which also supports a school, a hospital, two hotels, and as many as six elevators. In addition the Presbyterians, Methodists, Anglicans, and Roman Catholics of the town have erected churches for their respective de-

nominations. The town has an electric light plant which supplies the inhabitants at 15 cents per kilowatt.

Esterhazy, with a population of 400, is situated on the Kirkella-Saskatoon branch of the Canadian Pacific Railway, 267 miles south-west of Saskatoon. The Union Bank of Canada has opened a branch in the town, which also includes a school, a hotel, four elevators, and a church, which is used by the various religious denominations.

Fleming, with a population of 270, is situated on the main line of the Canadian Pacific Railway, 210 miles west of Winnipeg. The principal buildings of the town comprise a school, a hotel, a branch of the Northern Crown Bank, and four elevators. There are in addition three churches owned by the Methodist, Presbyterian, and Anglican denominations.

Francis is a small town with 300 inhabitants, situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 41 miles south-east of Regina. The Bank of Hamilton has opened a branch establishment here, and other buildings of note include a school, a hotel, five elevators, and a Presbyterian church. Water costs about \$8 per annum.

Grenfell is a town with 730 inhabitants, situated on the main line of the Canadian Pacific Railway, 77 miles east of Regina. Two chartered banks have opened branch establishments in the town, and six elevators have been erected adjacent to the station. Other buildings include two schools, two hotels, and six churches.

Gull Lake, with a population of 1,100, is situated on the main line of the Canadian Pacific Railway, 146 miles west of Moose Jaw. The Union Bank of Canada and the Merchants Bank of Canada have both opened branch establishments in the town, and two hospitals have been built and receive patients from neighbouring districts at a reasonable fee for board and attendance. Among other buildings that may be mentioned are the school, two hotels, three elevators, and four churches. The town owns an electric light plant which supplies the residents at a rate of 18 cents per kilowatt.

Hanley, a town of 600 inhabitants, is situated on the Winnipeg-Regina-Prince Albert branch of the Canadian Northern Railway, 122 miles north-west of Regina. The more important buildings include the school, the branches of the Northern Crown

Bank and Dominion Bank, two hotels, five elevators, and the churches occupied by the Presbyterian, Methodist, Anglican, and Lutheran denominations. An electric light plant is in process of installation.

Herbert, with a population of 1,010, is situated on the main line of the Canadian Pacific Railway, 82 miles west of Moose Jaw. The town possesses a graded school and a Mennonite Educational Institute, two hotels, and five elevators, while the Canadian Bank of Commerce and the Union Bank of Canada both have branches there. In addition churches have been built by the Methodist, Episcopal, Anglican, and Mennonite denominations, while a hospital is in course of erection. The town has an electric light plant, light being supplied to the residents at 16 cents per kilowatt.

Heward is a small town of 200 people, situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 82 miles south-east of Regina. The principal buildings consist of a school, a hotel, a branch of the Bank of Hamilton, three elevators, and three churches owned by the Methodist, Presbyterian, and Anglican denominations.

Indian Head, a town of some 1,400 inhabitants, is situated on the main line of the Canadian Pacific Railway, 42 miles east of Regina. The town is the centre of an important farming district, and ten elevators are required to handle the local harvests of grain. The Dominion Government also operates a large experimental farm here. Among the buildings may be mentioned the two schools, the three hotels, and three churches. The town owns extensive sewerage and waterworks systems, while a large park adds to its attractions.

Kamsack, with a population of 800, is a divisional point on the main line of the Canadian Northern Railway, and lies 279 miles west of Winnipeg. A branch of the Bank of Nova Scotia is situated here. The public buildings include a school and Anglican, Presbyterian, and Roman Catholic churches. For the travelling public there are two hotels.

Kindersley is a town of 1,250 people, situated 126 miles south-west of Saskatoon. It is on the Saskatoon-Calgary branch of the Canadian Northern Railway, of which line it is a divisional point. The Union Bank of Canada and the Canadian Bank of Commerce both have branches here, but the town possesses only one school, which is barely sufficient for its population. There

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are two hotels and four elevators, while the Presbyterian, Methodist, and Anglican denominations have built their own churches. Waterworks are in course of construction.

Lanigan, a town of 450 inhabitants, lies 76 miles east of Saskatoon, and is situated at the junction of the Winnipeg-Edmonton branch of the Canadian Pacific Railway with the Kirkella-Saskatoon branch of the same company. The Canadian Bank of Commerce and the Union Bank of Canada have established branches in the town, which also has a school and hotel, three elevators, and churches belonging to the Anglican, Presbyterian, and Methodist denominations. Services are also held by the Lutherans, who so far have not built a church of their own.

Lemberg, a small town with a population of 325, is situated on the Kirkella-Saskatoon branch of the Canadian Pacific Railway, 185 miles west of Brandon. The Union Bank of Canada has opened a branch establishment here, and despite its scanty population the town has two schools, two hotels, five elevators, and five churches, occupied by the Anglican, Presbyterian, Methodist, Roman Catholic, and Lutheran denominations.

Lumsden, a town of 700 persons, is situated on the Regina-Saskatoon-Prince Albert branch of the Canadian Northern Railway, 20 miles north-west of Regina. The town includes a school, a hotel, two banks, four elevators, and three churches.

Manor, with a population of 300, is situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 118 miles south-east of Regina. The Northern Crown Bank has opened a branch in the town, which also has a school, a hotel, four elevators, and Anglican, Presbyterian, and Methodist churches.

Melville, with a population of 3,000, is an important divisional point on the main line of the Grand Trunk Pacific, and is situated at the intersection of that line with the Regina-Yorkton branch of the same company, 280 miles west of Winnipeg and 96 miles north of Regina. The town is well supplied with modern conveniences, possessing an electric light plant, a waterworks system, a hospital, already in operation, and a second hospital in course of construction under the auspices of the Grey Nuns. Electric light is supplied for domestic purposes at 14 cents per kilowatt, or for other purposes at 6 cents per kilowatt. The low rate only prevails if light is taken in quantities

exceeding 100 kw. The water rate is \$1.25 per month for domestic purposes, \$5 for hotels, \$3 for restaurants and livery stables, and is specially fixed for other purposes. The Canadian Bank of Commerce and the Merchants Bank of Canada have both opened branch establishments in the town, which also possesses three hotels and three elevators. The educational facilities are good, and consist of two large public schools and a Lutheran college. The various religious denominations have between them erected seven churches.

Milestone, a town of 500 inhabitants, is situated on the Moose Jaw-Portal branch of the Canadian Pacific Railway, 53 miles south-east of Moose Jaw. The Union Bank of Canada and the Canadian Bank of Commerce have established branches here, and the town also includes a school, two hotels, six elevators, and five churches, built by the Methodists, Presbyterians, Anglicans, Roman Catholics, and Disciples of Christ. Electric light is supplied by the town's plant at 8 cents per 16 candle-power.

Nokomis, a town of between 500 and 600 people, is situated 99 miles south-east of Saskatoon, at the point where the main line of the Grand Trunk Pacific intersects the Winnipeg-Saskatoon branch of the Canadian Pacific Railway. Among the more important buildings of the town may be mentioned the school, the branches of the Canadian Bank of Commerce and the Northern Crown Bank, three hotels, four elevators, and three churches.

Outlook, with a population of 1,200, is situated on the Moose Jaw-Lacombe branch of the Canadian Pacific Railway, 118 miles north-west of Moose Jaw. Three banks have opened branches in the town—namely, the Canadian Bank of Commerce, the Union Bank of Canada, and the Bank of Montreal. Among the public buildings mention should be made of the two hospitals, the school, the two hotels, the four elevators, and the two churches. Electric light is supplied by the town's plant at 16 cents per kilowatt, and power at 10 cents per kilowatt. Water costs \$1 per 100 cub. ft.

Oxbow, a town of 900 inhabitants, is situated on the Brandon-Estevan branch of the Canadian Pacific Railway, 123 miles south-west of the former place. The Union Bank of Canada and the Merchants Bank of Canada have both opened branch establishments in the town, and other buildings

include two schools, a hotel, six elevators, and four churches.

Qu'Appelle, with a population of 1,100, is situated on the main line of the Canadian Pacific Railway, 33 miles east of Regina. The Northern Crown Bank and the Union Bank of Canada have established branches in the town. Two schools, two hotels, four elevators, and four churches are among the more prominent buildings. The town possesses its own electric light plant. Water is obtained from wells of a depth of 10 to 25 feet.

Rosetown, a town of 1,015 inhabitants, is situated 162 miles north-west of Moose Jaw, at the point where the Calgary-Saskatoon branch of the Canadian Northern Railway intersects the Moose Jaw-Macklin branch of the Canadian Pacific Railway. Among the principal commercial establishments of the town the Union Bank of Canada, the Royal Bank of Canada, and the Bank of Quebec occupy leading positions. In addition, the town possesses a school, a hospital, two hotels, five elevators, and four churches, owned by the Methodist, Anglican, Presbyterian, and Roman Catholic denominations. Electric light is supplied by the town's plant at a cost of 18 cents per kilowatt.

Rouleau, with a population of 700, is situated on the Moose Jaw-Portal branch of the Canadian Pacific Railway, 32 miles south-east of Moose Jaw. The Bank of Ottawa and the Bank of Hamilton have branches in the town, and the other buildings include a school, two hospitals, a hotel, five elevators, and three churches, occupied by the Anglican, Presbyterian, and Methodist denominations. A power plant supplies electric light at 17 cents per 1,000, while the water rate is \$1.50 per month.

Sallcoats, a town of 600 inhabitants, is situated on the Winnipeg-Edmonton branch of the Canadian Pacific Railway, 219 miles east of Saskatoon. The town owns an electric light plant, while the buildings include two schools, a hotel, two banks, three elevators, and three churches.

Sintaluta, with a population of 500, is situated on the main line of the Canadian Pacific Railway, 53 miles east of Regina. The Union Bank of Canada and the Home Bank of Canada have opened branch establishments in the town, which also includes a school, a hotel, and three churches, occupied by the Methodist, Presbyterian, and Anglican denominations. In addition

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there are seven elevators, which testify to the fertility of the surrounding country.

Stoughton, a small town with a population of 450, is situated on the Winnipeg-Arcola-Regina branch of the Canadian Pacific Railway, 88 miles south-east of the latter place. The town is also the terminus of a branch line operated by the Canadian Pacific Railway running to Weyburn. The principal buildings include a school, a branch of the Bank of Ottawa, two hotels, five elevators, and three churches, built by the Presbyterian, Methodist, and Anglican churches.

Strassburg, with a population of 835, is situated on the Kirkella-Saskatoon branch of the Canadian Pacific Railway, 130 miles south-east of the latter place. The town includes a branch of the Union Bank of Canada, a school, two hotels, three elevators, and four churches.

Wadena, with 600 inhabitants, is situated on the main line of the Canadian Northern Railway, 365 miles west of Winnipeg. The town has a power plant which supplies electric light at 20 cents per kilowatt, while among the more prominent commercial, educational, and religious institutions may be mentioned the branch of the Canadian Bank of Commerce, the public school, the hotel, the three elevators, and the churches occupied by the Anglican, Methodist, Presbyterian, Roman Catholic, Swedish Baptist, and Lutheran denominations.

Wapella, with a population of 500, is situated on the main line of the Canadian Pacific Railway, 121 miles east of Regina. The town includes a branch of the Union Bank of Canada, a school, two hotels, and three churches owned by the Roman Catholic, Presbyterian, and Anglican denominations. In addition, six elevators provide storage for the local grain harvest.

Watrous, a town of 1,500 inhabitants, is an important divisional point on the main line of the Grand Trunk Pacific, and lies about midway between Edmonton and Winnipeg. The town has a power plant from which power is supplied for industrial purposes at rates varying from 6 cents to 8 cents per kilowatt, but as the demand increases the cost will decrease. Electric light is obtained from the same source, the cost to the consumer varying from 12 cents to 18 cents per kilowatt. A waterworks system is in course of construction. The Canadian Bank of Commerce and the Union Bank of Canada both have branches in the town, and other buildings include a school, two

hotels, three elevators, and five churches, occupied by the Episcopal, Presbyterian, Methodist, Lutheran, and Roman Catholic denominations.

Whitehead, with a population of 500, is situated on the main line of the Canadian Pacific Railway, 107 miles east of Regina. The town includes a school, two hotels, a branch of the Merchants Bank of Canada, four elevators, and four churches.

Yellow Grass, a town of 600 inhabitants, is situated on the Moose Jaw-Portal branch of the Canadian Pacific Railway, 74 miles south-east of the former place. In respect of public utilities the town is progressive, being equipped with an efficient waterworks system from which residents are supplied at the rate of \$1 per tap per month. A power house supplies power at 15 cents per kilowatt, and an electric lighting plant is being installed at a cost of \$10,000. The Canadian Bank of Commerce and the Weyburn Security Bank have branches in the town, and the principal buildings include two schools, a hotel, five elevators, and three churches, owned by the Presbyterian, Methodist, and Baptist denominations.

Young is a small town of 200 inhabitants situated at the junction of the main line of the Grand Trunk Pacific with the Regina-Saskatoon branch of the Canadian Pacific Railway, 152 miles south-east of Saskatoon. The town includes a school, a hotel, a bank, two elevators, and a church.

Zealandia, with 600 inhabitants, is situated on the Saskatoon-Calgary branch of the Canadian Northern Railway, 60 miles south-west of Saskatoon. The Royal Bank of Canada has established a branch in the town, and other buildings include a school, a hotel, four elevators, and Methodist, Anglican, Presbyterian, and Roman Catholic churches.

ALLAN-CUMMING COMPANY, LTD.

This departmental store at Moose Jaw consists of 17 different departments, amongst which may be mentioned women's and children's ready-to-wear garments, millinery, men's clothing and furnishings, boots and shoes, dress goods and silks, smallwares, staple dry goods, house furnishings, furniture, kitchen utensils, and groceries. This store is, in fact, conducted on the most modern lines, having a well-furnished refreshment department which provides light lunches, offering accommodation to 50 people.

The building is four stories in height and covers an area of 52 by 110 ft. In addition to the main building, however, an adjacent property measuring 25 by 90 ft. is used by the men's furnishing department. The building, it may be remarked, is of trussed steel cement construction, and contains the most modern equipment throughout.

About 65 hands are employed, and four horse wagons are used for deliveries.

The possibilities open to a well-equipped store, when situated in even a comparatively small town, are shown by the fact that clients served by this store are to be found within a district possessing the considerable radius of 30 miles.

The capital of the company is \$150,000. The entire stock, however, is held by the president, vice-president, secretary and treasurer, positions occupied by Mr. J. C. Allan, Mr. J. W. Colling, and Mr. F. E. Cumming respectively.

All the partners in the firm are Canadians. Mr. Allan, prior to the establishment of the business, was for 15 years connected with a house-furnishing store in London, Ontario. He left that city for Saskatoon, where for three years he was interested in a leading dry-goods store.

Mr. Cumming, previous to residing in Moose Jaw, lived for 16 years in Toronto, where he was connected with a leading dry-goods store.

ANDERSON, LUNNEY & CO.

This business was originated in Regina in 1900 by Mr. E. M. Tracksell. A large real estate, loan, and insurance business is conducted, whilst farm lands and acreage are handled by the firm in considerable quantities. Messrs. Anderson, Lunney & Co. are the owners of the subdivision known as Glenclyn Park, which is situated 1½ miles from Regina Post Office. The subdivision is 640 acres in extent, and has been divided into building lots, with 25 and 27 ft. frontage and a depth of 125 ft. The greater part of this property has been sold. Another subdivision owned by the company is known as Argyle Crescent, in Swift Current. This property is situated about 1 mile distant from the Swift Current Post Office, and is 160 acres in area. A considerable investment business is conducted, money being placed on behalf of clients in first mortgages on city properties or improved

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farm lands to produce from 6 to 8 per cent. net. The firm makes its own valuation and makes loans up to 50 per cent. of the estimate arrived at. Agreements for sale are discounted at from 10 to 15 per cent., and these also bear from 7 to 8 per cent. interest on the face value of the agreement. The firm deals in bonds and debentures of corporations, schools, and municipalities, this type of investment appealing strongly to the more cautious and conservative investor.

Amongst the British insurance companies represented by Messrs. Anderson, Lunney and Company may be mentioned the North British and Mercantile Insurance Company, the Atlas Assurance Company, and the Scottish Union and National Insurance Company. A number of Canadian and American corporations are also represented.

Of the three partners, Mr. J. F. Anderson and Mr. J. F. Lunney entered the business in 1907 and Mr. J. M. Anderson in 1911. These gentlemen entered Western Canada from the province of Ontario, and had some years of experience in real estate and insurance matters before the present firm was established.



J. E. ARGUE

Mr. J. E. Argue, the enterprising mayor of Swift Current, has resided in Western Canada for 25 years. He was for nine years engaged in business in the vicinity of this town, and as mayor has well sustained the dignity of the town since 1908.



BARRIES, LTD.

In recent years the fur trade of the Prairie Provinces has developed into a very important industry. The whole north country from Hudson's Bay to the Rockies is rich in fur-bearing animals of rare quality. Here the beaver, otter, mink, marten, muskrat, bear, wolf, and silver, red, and black fox are found in great numbers and their furs brought south to be manufactured into warm garments to protect the inhabitants of the prairies from the frigid winds of the Canadian winter.

One of the best-known firms which undertake the manufacture and sale of furs is Barries, Ltd., which occupies large premises in Regina. At Barries' the art of the furrier may be seen at its best, and with the approach of winter the store is thronged

with prospective purchasers and admirers. Practically every kind of fur is stocked, and the firm employs a number of men of wide experience who carefully select every fur purchased from the trapper in order to prevent the use of inferior skins in the manufacture of the garments.

Not only does the firm use thousands of skins procured from trappers in Canada, but it buys large quantities of imported furs from other parts of the world, and is thus enabled to supply fur garments of every degree of luxury and comfort.



"BAKENHAM"

This ranch, which is owned by Mr. F. W. Peacock and family, is situated about 5½ miles south-east of Maple Creek.

Mr. Peacock entered Canada in 1883, and took up a homestead about two miles west of where the ranch now stands, the present site not being fixed upon until 1891. Today he owns, with his family, about 7,000 acres, of which about 350 acres are under cultivation. Wheat is grown upon 200 acres, the crop averaging 25 bushels to the acre; the balance is devoted to oats, which show about 50 bushels to the acre. Live stock includes 50 head of cattle (Shorthorns), and 200 horses, all Clydesdales. About 1,000 acres of the ranch are irrigated, and produce between 800 and 900 tons of hay each year; 5,000 acres are used for pasture. An additional 1,300 acres are leased from the Government.

The ranch is completely fenced, about thirty or forty miles of fencing having been erected, and amongst the buildings that have been erected upon the property may be mentioned the large ranch house and motor garage and extensive stabling.

The number of hands employed on the ranch varies slightly from time to time; about threshing time, however, thirty or more hands are required, labour being paid during the summer at the rate of from \$40 to \$45 per month with board.

It should be added that Mr. Peacock, who is a native of Suffolk, was born on a farm, and that farming is to him more than a mere business.



BRAEMAR FARM

This farm, which has been owned by Mr. W. Alexander since 1907, consists of 320 acres in the vicinity of Swift Current. The farm contains a spacious dwelling-

house, suitable implement shed, cattle shed, poultry house, and pig pen.

The principal live stock held by Mr. Alexander are 80 horses of the Clydesdale breed. Three Shorthorn cows are kept for milking purposes, and 80 head of poultry are to be found on the poultry run.

Of the 320 acres of which the farm consists, 160 acres are under cultivation, about 120 acres being devoted to wheat, and the balance to oats and kitchen vegetables. It is interesting to note that the average wheat crop to the acre totals 25 bushels; in 1912 the crop of wheat showed 39 bushels to the acre and oats 60 bushels to the acre. No difficulty has been experienced at Braemar Farm either in securing all the labour required or in disposing of the grain which the farm produces.

Farm labourers receive \$40 per month, this sum being given them in addition to their board.

Finally, it may be remarked that the entire farm is fenced, and that good water is obtained from a well 120 ft. deep.

Mr. Alexander, who is a native of Scotland, entered Canada in 1880, and, remaining in the East for two years, travelled to Western Canada in 1882, to take up farming in 1884.



CALDWELL, DUNN, AND FRASER

The firm of Caldwell, Dunn, and Fraser, barristers and solicitors, Moose Jaw, was founded in 1910 under the title Caldwell and Dunn. In 1912 the firm was strengthened by the admission to the partnership of Mr. Fraser, a member of the Nova Scotian Bar. The firm has an extensive practice of a general character, Mr. Caldwell attending to financial and corporation work, Mr. Dunn to council work, and Mr. Fraser to legal work of a general character.

Previous to 1910 Mr. Dunn had practised in Durham, Ontario. Since the formation of the firm he has filled a prominent place in the civic life of the city, and for the past two years has acted as police magistrate in Moose Jaw. Mr. Caldwell was born near London, Ontario, and is associated with a number of important companies, including, amongst others, the Bank of Saskatchewan, General Loan Company of Canada, and the Northern Life Assurance Company—of which corporation he is a director—the Moose Jaw Securities, Ltd., and the Saskatchewan Creamery Company, Ltd.—of

THE PRAIRIE PROVINCES OF CANADA

which he is president—and Saskatchewan Bond Corporation, in which company he fills the office of vice-president.



THE CAPITAL INVESTMENT COMPANY

This firm was established in Regina in 1912 by Mr. Thomas M. Bee, Mr. William Antliff, Mr. A. H. Ball, the Deputy-Minister of Education for Saskatchewan, and Mr. R. H. Hall. For the preceding 15 or 16 years these gentlemen had all been connected in various ways with real estate operations, and thus possessed an intimate knowledge of the business.

The firm were part owners of the subdivision known as Industrial Centre, situated at the Grand Trunk Pacific junction in the city of Regina. This property, which was placed on the market in 1911, consisted of 640 acres, and the whole of it was sold within a little over six months. A number of houses have since been erected thereon and are occupied by men engaged in local industries. A car line connects the property with the city, the centre of which is about two miles distant. The firm are now handling the adjoining property known as Industrial Heights, consisting of 480 acres, divided into building plots measuring 25 by 125 ft. About half of this property had been sold at the end of July, 1913. They are also selling a subdivision at St. Vital, a suburb of Winnipeg, to which has been given the name of Scotswood. This property will shortly be connected with the city by means of an electric tramway, which should be completed during the next twelve months. An important thoroughfare with asphalt pavement, sidewalks, and electric lighting runs past Scotswood, and the sewer and water was extended beyond the property during the summer of 1913.

The firm's activities, in addition to the purchase and sale of city and suburban property, include the discounting of agreements for sale, an exceptionally profitable and reasonably secure form of investment.



CAXTON PRESS, LTD.

The Caxton Press was established in Regina in 1907 at premises in Rose Street. In 1912, however, the growth of the business necessitated larger premises, which were found in Cornwall Street. The plant consists of five presses, one linotype machine, one Stone Metz, and three

Gordon presses, all of the latest type. The works include binding, cutting, printing, and composing departments, a stock warehouse, a stationery department, and offices.

Most of the paper used in the press is purchased in Winnipeg. A speciality is made of catalogue work.

Mr. Ryan, the manager, is an Englishman, who, for some years previous to entering Canada, held a position with Messrs. Bennett Bros., of Bristol.



COLLEGIATE TECHNICAL INSTITUTE

Among the educational establishments of Moose Jaw, reference may well be made to the Collegiate Technical Institute.

The building, which is of Gothic architecture, measures 165 by 96 ft., and has accommodation for 600 pupils in the day school and about 400 in the night school. At present the school has over 300 day pupils and about 250 night pupils. In addition to the ordinary class rooms, of which there are twelve, three laboratories provide facilities for work in science and chemistry, while a machine and carpenter's shops are equipped with the appliances necessary to a sound manual training. The recreation of the pupil is equally well provided for. The grounds surrounding the school contain 10 tennis courts, a football ground, and an open-air ice hockey rink, which in summer is devoted to lacrosse. In the basement of the building is an excellent gymnasium.

The courses of study are divided into two main divisions, known as (1) the academic, and (2) the technical courses. To enter the former of these, pupils must at least have passed the Grade VII examinations of the public school. The latter courses are open to pupils registered in the academic courses, and apprentices, clerks, stenographers, and others. The Institute is maintained by the Government, which makes an annual grant based on a certain amount per teacher per diem, with special grants for technical work, science, equipment, and library. The required balance is supplied by the city ratepayers. In 1913 the Government grant amounted to between \$6,000 and \$7,000, and the ratepayers contributed \$31,000.

The Superintendent, Mr. J. Wright Sifton, B.A., has occupied that position since the opening of the Institute in 1909,

having previously been for four years the Principal of the Moose Jaw Public High Schools. Mr. Sifton took his degree at Toronto University in 1898.



THE W. W. COOPER COMPANY

This departmental store was originally established in Swift Current in June, 1903, under the title Argue and Cooper. In January, 1912, Mr. Argue, who is at present Mayor of Swift Current, retired from the concern, and the business has since been carried on solely by Mr. W. W. Cooper.

Some idea of the increase which has taken place in the business transacted by this house may be gathered from a comparison of the size of the stores as they originally consisted and that of the commodious building of the present day. The original store was a building 20 by 40 ft., and housed stock and fixtures valued at \$750. The present building is two stories in height and covers an area of 100 by 85 ft. In addition the business requires the accommodation provided by two warehouses adjacent to the main building, measuring 30 by 100 ft. The stock at present carried is valued at \$140,000.

Amongst the departments to be found in this store the following may be mentioned: Groceries, crockery, provisions, bakery, flour and feed, dry goods, small wares, ladies' ready-made garments, men's clothing, furniture and house furnishings, hardware, builders' supplies, harness, trunks, and travelling requisites. In fact, the "C" enclosed in a diamond, which forms the trade mark of the firm, may be found upon goods of every description.

Over 30 hands are at present employed in the building, and it is probable that this number will be increased at no distant date.

Provision for an extension of the premises exists in the shape of a plot of land, 150 ft. in depth, at the back of the present store, and it is anticipated that within a short time the main building will have been extended to cover this space.

Mr. Cooper entered Western Canada from Ontario in 1890. He is a member of the Swift Current Board of Trade, and takes a considerable amount of interest in the Freemasons, the Oddfellows, and the Elks, of which societies he is a member.



SOUTHERN SASKATCHEWAN

EXCELSIOR STOCK FARM

The Excelsior Stock Farm, which is situated about 11 miles from Oxbow, consists of 1,760 acres, and is owned by Mr. Hugh C. Watson. As is frequently the case with successful farms in Western Canada, the Excelsior Farm as it now stands represents an almost continuous growth spread over a number of years. Mr. Watson entered Western Canada from Hilton, Ontario, in 1884, when he homesteaded a first quarter-section of land. He purchased a quarter-section in 1895, paying for it at the rate of \$3 per acre; a second quarter-section was added in 1900 at a cost of \$7 per acre, and in the same year a further half-section was purchased at the rate of \$2.50 per acre. In 1904 Mr. Watson spent \$2,000 in the purchase of a half-section and pre-empted a quarter-section at a cost of \$6 per acre. To the considerable acreage thus accounted for he added, in 1905, a last half-section, which he took over from his brother.

The property includes a framehouse of nine rooms, stabling for 40 horses and 60 head of cattle, a large granary and several smaller ones, and a large implement shed of corrugated iron.

Live stock to be found on the farm include 60 horses and 100 head of cattle, of which 70 are registered Shorthorns. The horses, which include two valuable Clydesdale stallions and two Clydesdale mares, are valued at \$8,000 and the cattle at \$10,000. The agricultural machines include a threshing outfit, five binders, a Stewart stook loader, three gang ploughs, and numerous other implements.

Of the farm itself all but 500 acres are under cultivation:

Wheat is cultivated upon	500	acres
Oats upon	...	...
Barley upon	...	...

400 acres are summer-fallowed. A few years since but little fencing was in evidence in the Prairie Provinces. That state of affairs, however, has been greatly altered, largely by the changed conditions consequent upon the more general opening up of the land; of Mr. Watson's property, 1,100 acres are fenced.

The granary, of which mention has been made, has a capacity of 10,000 bushels, and 10 small granaries account for 800 bushels each. The farm-house is well situated, and we may add the fact, which

will surprise those who are inclined to fear the hard life of the West, that it is fitted with a telephone.



EXECUTORS AND ADMINISTRATORS TRUST COMPANY

This company, which has a capital of \$1,000,000, was established in 1912 for the purpose of carrying on a trust and agency business.

The head office of the company is in the city of Moose Jaw, but plans have been laid for representation throughout the Dominion and in Europe. The capital stock has been divided into 10,000 shares of ordinary stock of the face value of \$100. Of this issue over \$500,000 was subscribed by investors resident in Moose Jaw. The majority of the directors have large interests in the province of Saskatchewan and possess an intimate knowledge of Western affairs and conditions. The income of the company is derived from:

- (a) The investment of its capital, stock, deposits, &c.
- (b) The fees and commissions obtained in connection with the administration of estates.
- (c) The investment of trust moneys.
- (d) The collecting of accounts, rents, dividends, mortgages, &c.
- (e) Acting as assignees, trustee, guardian, official administrator, &c.
- (f) Acting for the owners of real estate.
- (g) Acting as agent for the transaction of business, the management of and winding up of estates.
- (h) Acting as custodian of sinking funds.
- (i) Rents of safe-deposit vaults.



GEORGE A. FERRIS

Mr. Ferris commenced to practise in Swift Current as an architect in 1913; previous to this date he practised in Reno, Nevada, for seven years, and for the previous 18 years had been similarly engaged in other towns in the United States. During that period he designed the Tocoa Block, San José, California; the original High School, Pacific Grove, California; the High School and the Carnegie Library at Ashland, Oregon; the Pavilion and Stadium at Salem, Oregon; the High School and four Grade Schools at Reno, and numerous other build-

ings. Since residing in Swift Current, Mr. Ferris has devoted his attention mainly to the planning of dwelling and business premises. He specializes, however, in school work.

Mr. Ferris is a member of the American Institute of Architects and of the Saskatchewan Association of Architects.



J. FUNK & CO

This company, which was established in 1905 in Herbert, Saskatchewan, manufactures stove pipes and galvanized chimneys, galvanized cisterns, water-barrels, and furnace piping and boxing; steam fitting and plumbing is also undertaken.

In addition to carrying an extensive stock of general hardware, Messrs. J. Funk & Co. act as sole agents to the district for the De Laval cream separator and the "Big Four" gas traction engine.

Another department of the business is concerned with the manufacture of every description of harness. This department keeps in stock all kinds of goods likely to be required by carriage and other vehicles. Business is chiefly transacted locally with clients residing in Herbert and with farmers from the surrounding districts.

Some unexpected agencies carried by Messrs. J. Funk & Co. are those of the Canadian Kodak Company, Messrs. Dingwall of Winnipeg, and the Plymouth Cordage Company of Welland, Ontario.

When first established, the business was managed by a son of the present proprietor. Whilst no longer responsible for the management of the business, the former still retains a large interest in the company.

Mr. Funk is a native of Russia, and entered the Dominion in 1875. Previous to the establishment of the company under notice he resided in Eastern Canada, where he was engaged in the hardware business.



GRAND VALLEY GARDENS

The Grand Valley Gardens, established in 1903, consist to-day of between 20 and 30 acres. Originally, however, about 7 acres were taken up by Mr. J. Slater, the proprietor, additions to the property having been gradually made at subsequent dates. Vegetables of all varieties are extensively cultivated, the fields containing cabbages, cauliflowers, carrots, beets, turnips, radishes, celery, tomatoes, chives, chervil, mint,



JAMES SLATER, GRAND VALLEY GARDENS, MOOSE JAW.

1. HARVESTING POTATOES.

2. HARVESTING ONIONS (INDIVIDUAL ONIONS WEIGHING AS MUCH AS 1 LB. EACH).

3. MR. SLATER'S RESIDENCE.

4. CABBAGE (WEIGHT, 28½ LB.).

SOUTHERN SASKATCHEWAN

parsley, rhubarb, and many of the usual flavouring herbs, such as sage and thyme.

In the hothouses are grown cucumbers, lettuce, tomatoes, and onions, these being forced. Flowers cultivated on the property include carnations, chrysanthemums, gypsophila, lilies, tulips, hyacinth, and all bulbous roots. The 10 acres of potatoes to be found in the gardens show from 300 to 450 bushels to the acre, and average 90 cents per bushel. About 40,000 head of cabbages are grown, 98 per cent. of which matured in 1912. Though the sandy loam which constitutes the soil of the estate is well suited to market gardening, a considerable amount of manure is used, about 20 tons to the acre being employed.

The hothouses and buildings are somewhat extensive, covering over half an acre of land, and containing over 7,000 sq. ft. of glass.

In the busy season from 15 to 20 men are employed on the work of the estate. Some idea of the weekly wages bill may be gathered from the fact that the potato-pickers secured in the seasons 1911 and 1912 as much as 3½ dollars per day in addition to their board and lodging. During these years 50 acres of potatoes were grown at the farm. Two horses are used for delivery purposes, and two others for ploughing. In addition two other horses are kept for what is known as the dump cart and for driving purposes.

The City of Moose Jaw takes practically the entire output of the gardens, much of the produce finding its way to the dining-cars of the Canadian Pacific Railroad. The question of finding a market, however, is one that does not arise, since the main difficulty experienced by Mr. Slater is to keep pace with the demand.

Mr. Slater is a native of Keighley, Yorks, and came to Canada in 1903. Some of his success is no doubt attributable to the fact that he had had many years of experience in the nurseries controlled by his father at Skipton, Yorkshire. He speaks in highly optimistic terms of the possibilities and future of the district of Moose Jaw.

D. Y. LESLIE

This firm was established in Swift Current in 1911, and does a considerable business in real estate matters. All kinds of city and outside properties are handled; among the former may be mentioned an

area of 160 acres known as Parkview, which is owned by Mr. Leslie.

Corporation bonds and debentures are handled on a commission basis, and a considerable amount of investment is undertaken on behalf of clients. First mortgages upon city and farm properties yield 8 per cent. net to the investor. Loans are advanced to the extent of about 33½ per cent. of the value. In no case is there a greater amount loaned than 50 per cent. of the value of the property.

Insurances are effected in favour of the mortgagee to the full extent of the loan.

Agreements for sale, which are extensively handled by Mr. Leslie, produce from 12 to 20 per cent.

Mr. Leslie, who is a Canadian by birth, was connected for some time with the lumber industry. He has, however, for some years past devoted his attention almost exclusively to real estate business. He is President of the Swift Current Board of Trade.

McARA BROS. AND WALLACE

This firm of financial, insurance, and estate agents was established in Regina by Mr. P. McAra in 1886, the partnership as at present existing being formed in 1910. A large real estate business of a general character is transacted, the firm handling both business and residential property within the city and improved and unimproved farm lands in the district. Whilst no subdivisions are owned by the firm, sales of tracts of land are frequently undertaken on behalf of the owners. A form of investment in which the firm may be said to specialize is that offered by first mortgages upon city properties and improved farms. As a general rule from 7 to 8 per cent. may be secured in this manner after all charges have been met. In times of financial stringency, however, an even higher rate can be obtained with entire safety. The amount loaned varies from 40 to 50 per cent. upon the value of the property. The firm is in the habit of making its own valuations, though they are always willing to allow an independent valuation when this is desired. Agreements for sale are discounted so as to allow the investor from 12 to 20 per cent. net. In every case the title is thoroughly investigated by the firm before the transaction is concluded. School and municipal debentures varying from 5½ to 6½ per

cent. are also handled, this form of investment appealing strongly to the more conservative investor. It is said that the fire insurance business transacted by this firm is the oldest established within the province. However that may be, it is doubtful if the volume of business transacted in this direction is exceeded by that of any other firm within the same limits. Several British and other companies are represented, amongst them the Royal, the Norwich Union, and the Caledonian. Mr. P. McAra (junr.), the senior partner, was born in Edinburgh, Scotland. He entered Regina in 1883, was an alderman of that city in 1905, and mayor in 1906 and 1911-12. Of the other partners, Mr. J. McAra hails from Scotland and Mr. W. L. Wallace from Western Canada.

McCALLUM, HILL & CO.

The firm of McCallum, Hill & Co. was established in Regina in 1902 for the purpose of undertaking real estate, loan, and investment business. The firm specialize in high-class residential properties within the city of Regina, where it also handles business properties. The subdivision known as Lake View, situated about 1½ miles south-west of the post office and immediately adjoining Parliament Buildings, is owned by Messrs. McCallum, Hill & Co. This property, which is 640 acres in extent, has been divided for building purposes into lots varying from 25 ft. frontage to 80 ft. frontage, with a depth varying from 125 to 150 ft. In a certain portion of the property the price of the lots has been fixed at a figure that will ensure the formation of a residential quarter of the better class.

A subdivision known as Wascana Park, adjoining the property mentioned above, is also owned by the firm. This property, which is 290 acres in area, is situated slightly nearer to the centre of the city than Lake View.

Investments are made on behalf of clients in city properties and farm lands, investments which yield a return of from 6 to 7 per cent. net. Loans of this nature are made up to from 40 to 50 per cent. of a conservative valuation made by the firm itself. Properties are insured in favour of the mortgagee.

Messrs. McCallum, Hill & Co. are the sole representatives in Regina and district of the Liverpool, London and Globe

THE PRAIRIE PROVINCES OF CANADA

Insurance Company, the British Dominions General Insurance Company, and the British and Canadian Underwriters, Ltd. In addition to these British companies the firm represents several American corporations.

The partners in the firm are Mr. E. A. McCallum, Mr. E. D. McCallum, and Mr. W. H. A. Hill. These gentlemen entered the business at the same time, Messrs. McCallum, who are brothers, having been previously in business in Regina. The three partners were born in Ontario, but have resided in Western Canada for periods ranging from 13 to 15 years, during which time they have acquired a valuable experience of real estate and kindred transactions.

D. A. McCURDY & CO.

This firm of real estate and investment agents was established in Moose Jaw in 1911. The proprietor of the business, Mr. D. A. McCurdy, specializes in city properties, both business and residential, the more speculative subdivision properties being avoided. Investments such as the purchase of improved city properties are constantly made for clients who sell at a later date at a considerably enhanced figure. City properties in Moose Jaw show an annual increase of from 50 to 100 per cent. for the past three years. In some instances, it is said, the total increase for this period has been as high as 300 per cent. in the case of business properties and nearly 400 per cent. in the case of residential property. Residential properties are usually purchased on terms which include a cash payment of one-third and the balance payable in 6 and 12 months, 8 per cent. being charged upon the unpaid balance. Business properties may be purchased on similar terms, except that the payment of the outstanding balance is spread over one or two years. Mr. McCurdy discounts agreements for sale at from 10 to 15 per cent. off the balance due.

Mr. McCurdy was born in Nova Scotia. He entered Saskatchewan in 1911. He is a member of the Moose Jaw Real Estate Board and of the Board of Trade.

MOOSE JAW BREWERY AND MALTING COMPANY, LTD.

The Moose Jaw Brewery and Malting Company, Ltd., was incorporated in 1906 with a fully paid-up capital of \$100,000.

The company has its works in Moose Jaw and is engaged in the manufacture of lager beer, stout, and various mineral waters. The bulk of the company's produce is sold to local consumers, but a fair percentage is also shipped to different points in the district bounded on the north by Outlook, on the west by Maple Creek, on the south by Estevan, and on the east by Brandon.

The plant which is at present in use occupies half an acre of land, but a new bottling plant, offices, and stables are being erected on an adjoining five acres. The storage capacity has also been very largely increased during the past twelve months, space now being provided for nearly 2,000 barrels as against 850. The hops and grain used in the manufacture of the beer come principally from Canada, though some are obtained from England and California.

As might be expected, the company's busy season occurs during the three summer months, during which time the employees earn an average weekly wage of \$20. Wages decrease slightly during the winter. Twenty-eight hands are employed, but more men will be required by next season.

Mr. John A. Whelan, the general manager, is an Irishman by birth, who has been in Canada since 1893. His commercial experience was gained with the Grand Trunk Pacific Railway Company, and he was also engaged for some time in the real estate business in Winnipeg. He joined the Moose Jaw Brewing and Malting Company, Ltd., in 1910. The president and vice-president of the company are Mr. D. J. Battell and Mr. W. E. Seaborn respectively.

MOOSE JAW AND DISTRICT COMPANY, LTD.

The Moose Jaw and District Company, Ltd., which has an authorized capital of \$180,000, of which \$60,000 has been paid up, was incorporated in 1912 for the purpose of acquiring the business of Mr. William Clark, a dealer in gasoline and steam threshing machines. The demand in Western Canada for machinery of this description has of recent years grown by leaps and bounds. Since most of the engines used for threshing purposes can also be used for traction purposes, they are rapidly replacing horses for ploughing, disking, and seeding. The company's turnover has now reached \$180,000.

The officers of the company are Mr. J. H.

Buffatt, president; Mr. R. F. Courtayne, vice-president; Mr. W. F. Buffatt, manager; and Mr. Lawrence Giles, secretary-treasurer.

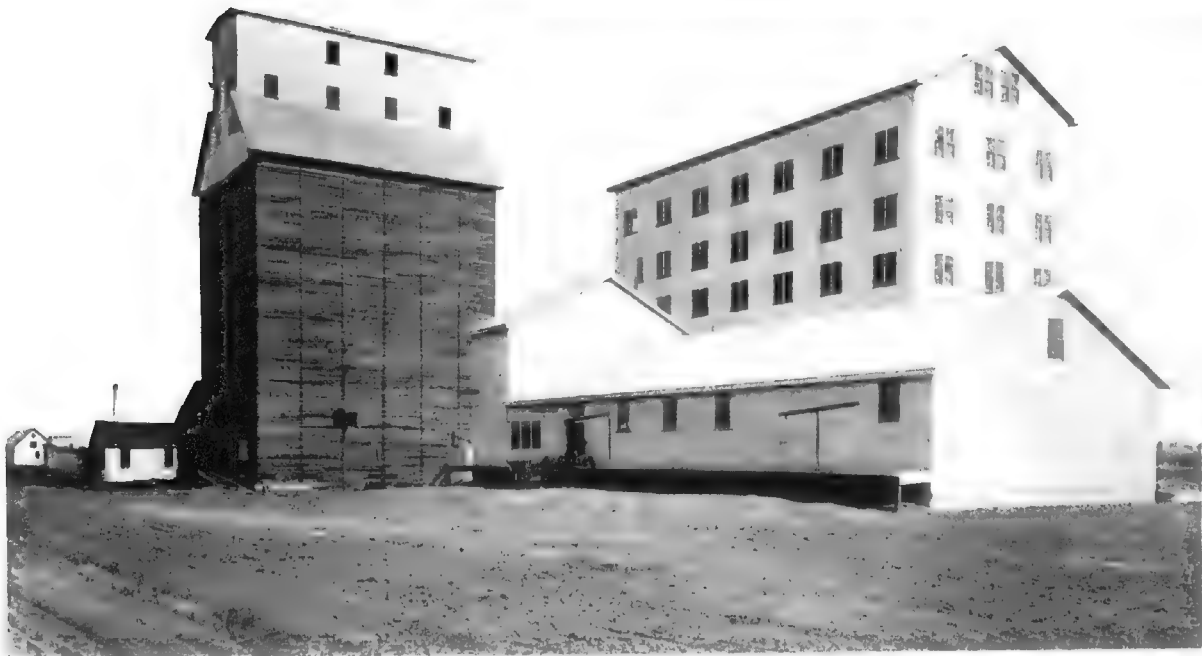
MOOSE JAW FLOUR MILLS, LTD.

This company was incorporated in 1912 under Provincial Charter with a capital of \$500,000, of which \$350,000 is paid up. The plant covers between 8 and 9 acres, and includes a large mill with a 3,000-barrel capacity. Plant for operating 1,500 barrels has already been installed, and, as business requirements necessitate, further machinery will be installed up to the full capacity of the mill. At a convenient distance stands the grain elevator, which possesses a capacity of 150,000 bushels, while numerous warehouses to be found on the property afford additional storage for 15,000 sacks of flour and feed.

About 160 hands are employed, all of whom are under the description "white labour." It is not without interest that the average earnings per employee runs from \$20 to \$25 per week, a figure far in excess of that paid in Great Britain. The offices of the company are adjacent to the mills.

The company markets its produce in Canada from the Pacific to the Atlantic, and a large export trade running to about 20 per cent. of the annual output is handled to ports without the Dominion. Of the foreign countries, Europe is the company's best customer. The grain used in the mills is secured from all parts of Saskatchewan.

The principal officers of the company include Mr. A. C. Von Hagen, president; Mr. C. E. Austin, vice-president; and Mr. J. M. Robb, secretary. The three directors include Messrs. Von Hagen and Austin and Mr. W. E. Seaborn. Mr. Von Hagen is president of the United Flour Mills Company of Minneapolis; Mr. Austin, previous to the incorporation of the company under notice, acted as general manager of the Robin Hood Flour Mills, which position he accepted after some years of experience gained with the International Milling Company of Minnesota, which was the parent company of the Robin Hood Mills. Mr. Austin's experience, practical and theoretical, of the milling business extends, in fact, over a period of ten years. He is a native of Vermont, U.S.A., and came to Canada in 1908. Like Mr. Austin,



MOOSE JAW FLOUR MILLS, LTD., MOOSE JAW.

1. GENERAL VIEW OF PLANT, SHOWING NEW ELEVATOR.

2. STORAGE BUILDING.

THE PRAIRIE PROVINCES OF CANADA

Mr. Robb gained much of his experience in the Robin Hood Mills, in which, for the three years preceding that in which he joined the Moose Jaw Flour Mills, he acted as an accountant.



MOOSE JAW IMPLEMENT COMPANY

For the past two years this business has been under the direction of Mr. T. J. McCammon, who purchased it in 1910. Farm implements, automobiles, and carriages make up the stock carried by the company, which represents such manufacturers as the McCormick Harvesting Company, the International Harvesting Company, Ltd., the John Deere Plow Company, and the J. T. Case Threshing Company.

For the past two years the yearly turnover has been \$140,000.



MOOSE JAW SECURITIES, LTD.

This company was incorporated in January, 1911, with a capital of \$60,000, a sum that was subsequently increased to \$200,000. Whilst the firm was originally formed to deal in agreements for sale, a purpose for which the capital of the firm was considered ample, the business rapidly increased in scope, and large sums of money are now invested on behalf of clients to whom interest is paid at rates varying from 10 to 15 per cent., according to the arrangements made for repayment. In these cases collateral security to the value of 150 per cent. of the amount invested is deposited with any bank or trust company named by the investor. Whilst the amount of business transacted has increased at a phenomenal rate, the firm still works much upon the lines originally laid down, only agreements for sale and mortgages being handled.

Mr. J. E. Caldwell, of Messrs. Caldwell, Dunn, and Fraser, is the president of the company; Mr. Harry F. Stirk is the secretary-treasurer, and the directorate consists of Mr. R. H. Clarke, Mr. L. M. Rosevear, Mr. J. S. Holmsted, who is the manager of the local branch of the Bank of Montreal, and Mr. H. F. Mytton. Mr. Stirk, whose energies are largely devoted to the business, was born in Wolverhampton, England, from which town he came to Canada in 1883. Before organizing the company of which he is now the secretary-treasurer and managing director, he spent

seven years in a private bank in Gretna, Manitoba. Mr. Stirk, it may be mentioned, is also the president and managing director of the American Securities, Ltd.



G. H. MORRISH

The farm owned by Mr. G. H. Morrish consists of 1,120 acres, situated about 10½ miles from Oxbow. Mr. Morrish homesteaded 160 acres in 1900, purchased a quarter-section for \$700 and another at \$3.50 per acre in 1900, and three quarters of a section in 1909 at \$22 per acre. The farm carries a framehouse containing nine rooms, stabling for 24 horses and 20 head of cattle. Live stock to be found on the property consists of 32 horses, valued at \$5,500, and 48 head of cattle, including one Durham bull, valued at \$3,000. Amongst the farming implements are a threshing outfit, three binders, three drills, two sets of disc harrows, three sets of drags, six wagons, and numerous other accessories, the total value of which is estimated to reach \$3,300.

Of the farm, all but 220 acres is under cultivation. The principal cereals are grown as follows:

Wheat ...	...	...	225 acres
Barley ...	...	...	55 "
Oats ...	...	...	200 "

The remaining acreage is summer-fallowed. Three hundred acres have been fenced.

One granary, 30 by 36 ft., has a capacity of 6,000 bushels, and a portable granary provides further accommodation for 600 bushels.

Good water is secured from a well at a depth of 300 ft., a windmill for pumping purposes having been installed at a cost of \$800. The property is within a convenient distance of the nearest grain elevator.

Upon the northern half-section a framehouse of five rooms has been erected, as well as stabling for 20 horses and 14 head of cattle. This portion of the property also carries a good implement shed and a granary, 16 by 50 ft., possessing a capacity of 5,500 bushels.



W. E. MOUNTAIN

The real estate, loan, and insurance business transacted in Swift Current by Mr. W. E. Mountain includes the handling of all kinds of city and outside properties,

including business and residential properties and acreage for subdivision. Mr. Mountain is a part owner of a quarter-section known as SW. of sec. 26 of township 15, range 14, west of 3rd meridian. He is sole owner of the east half of sec. 27 and the south-west quarter of sec. 35 of the same township, and of numerous quarter-sections in the vicinity of Swift Current. These properties are sold as acreage for subdivision purposes. A large business is undertaken in the direction of loans upon first mortgage of farms and city properties, a class of investment producing 8 per cent. net to the investor. The amount loaned is usually about one-third of the value of the property. Mr. Mountain has been established in business for five years, but has resided in Swift Current for nearly 10 years, and possesses an extensive knowledge of local conditions. He is a native of Ontario, and a member of the Swift Current Board of Trade.



NAVIN BROS.

During the five years in which they have been established as general contractors in Moose Jaw, Messrs. Navin Bros. have built a number of important public and commercial buildings. Chief among them are the Car Barns, Collegiate Institute, St. Agnes' Separate School, New City Hall Annex, and the Allen Blocks. The firm has also erected a number of buildings in other parts of Saskatchewan and Alberta, notably at Weyburn, where they were entrusted with the construction of the Post Office and new Collegiate Institute, and at Lethbridge, where they are engaged upon the new Post Office, a fine building that is being erected at a cost of \$225,000. Other works undertaken include the completion of the sewer and water extension at Moose Jaw, which was installed at a cost of \$50,000. The principals are Mr. W. A. Navin and Mr. T. A. Navin.



NAY AND JAMES

The financial, real estate, and insurance business transacted by this firm in Regina was originated in 1905 by the late Mr. J. W. Nay. This gentleman in 1906 was joined by Mr. J. F. Anderson, the title of the firm becoming Nay, Anderson & Co. In the summer of the year following this firm was dissolved, and Mr. James became associated with Mr. Nay, the title of the

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firm being changed to Nay and James. At that time the charge of the general office was in the hands of Mr. G. H. Sneath, who in 1908 was admitted to the partnership. The constitution of the firm remained unaltered until the death of Mr. Nay in August, 1911.

Whilst the firm specializes in business and residential properties within the city limits, the financial side of the business has assumed considerable proportions. Investments are made in securities offered by Provincial Governments, and in debentures issued by cities, towns, municipalities, and school districts. These investments appeal strongly to those who fear the speculative side of real estate, nor are they by any means unremunerative, since they yield from 4½ to 6 per cent. net.

First mortgages producing from 6½ to 8 per cent. net are negotiated upon revenue-producing city and farm properties. Another branch of the firm's activities is that concerned with the collection and remittance of matured debentures and coupons. Mortgages and the interest upon them are also collected. Investing as it does a considerable amount of money on behalf of clients, the firm makes a most careful investigation of the security offered it. Valuations are made by the firm itself, and the maximum amount loaned is 50 per cent. of the valuation. Messrs. Nay and James are sole representatives in Regina and district of the Sun Insurance Office of London, the Northern Assurance Company of London, the Law Union and Rock Insurance Company, Ltd., and a number of other British and American companies. Mr. F. J. James was born in London, England, and entered Western Canada in 1898. Mr. Sneath is a native of Barrie, Ontario. Both gentlemen have been connected with the real estate business for many years. We may add that Mr. James is president of the City Investment Company, Ltd., vice-president of the Capital Laundry Company, Ltd., director of the Saskatchewan Mortgage Corporation, and director of the Scottish Saskatchewan Trust Corporation.

PARRY AND STURROCK

This firm, which was established in Regina in 1909 by Mr. Walter Parry and Mr. Donald F. Sturrock, conducts a considerable business in real estate, loans, and insurance. Regina has of late advanced in

importance with great rapidity, and the firm under notice has been led by this fact to limit its activities to business, residential, and farm properties in the city district. A subdivision owned by this firm, known as Parliament Place, is situated to the south of the Parliament Buildings and about 2 miles from the Post Office. This property covers 320 acres, and is divided into building lots, 25 by 125 ft. in area. More than two-thirds of this property, we understand, has been sold. The firm are also owners of between 4,000 and 5,000 acres situated in the Regina district.

Money is invested for clients in first mortgages in city and farm properties. These investments produce from 6 to 8 per cent. net to the investor, the amount varying slightly according to the class of security, the amount of the mortgage, and the state of the money market. The maximum amount loaned is 50 per cent. of a conservative valuation of the property. A higher rate of interest may be secured upon unimproved farm properties where the margin of security is ample. In these cases loans are only made after investigation as to the character and standing of the prospective mortgager. Both partners make periodical trips through the West for the purpose of valuing large properties.

Development upon the subdivision known as Parliament Place is being conducted at the firm's expense, and in connection with their other properties the directors are considering a comprehensive scheme to erect ready-made factories and dwellings for the employees of those manufacturers who take advantage of their enterprise.

The firm in London are represented exclusively by Mr. A. C. Drayton, of Empire House, Piccadilly. Both Mr. Parry and Mr. Sturrock were born in England.

POPLAR HEIGHTS

This farm, which consists of 320 acres, lies about 5 miles north of Weyburn, and is owned by Mr. W. A. Davis, who homesteaded a quarter-section of land in 1901. A further quarter-section was purchased in 1905 at \$25 per acre. The farm buildings include a framehouse of eight rooms, stabling for 10 horses and six head of cattle. The stock carried totals nine horses, valued at \$2,000, seven head of cattle, valued at

\$400, and nine pigs. All but 10 acres of the farm is under cultivation, as follows:

Wheat (Red Fife) ...	188 acres
Oats (White Banner) ...	30 "
Flax	60 "
Barley	4 "

The balance of the land is summer-fallowed or used for pasture. Five granaries have been erected, three of which contain 1,200 bushels each, and the others 800 and 2,400 bushels. Farming implements carried include two 8-ft. binders, one drill, two gang ploughs, one disc harrow, two sets of drags, two wagons, and other accessories. Good water is procured at a depth of 12 ft. One of the finest groves in the district, consisting of maple, poplar, and evergreen willow, is also to be found on the estate.



THE RALPH MANLEY AGENCY, LTD.

The Ralph Manley Agency, of Moose Jaw, which is concerned with real estate, investments, and insurance, was established as a private concern by Mr. Ralph Manley in 1906, and was later incorporated with an authorized capital of \$50,000.

The real estate business is conducted on customary lines, the firm being especially interested in the districts of Hillcrest and Westmore, the former of which adjoins the original town site of Moose Jaw. Westmore is situated about one half-mile to the west of the original town site in the principal line of industrial growth. Properties in these localities are sold by the firm on very reasonable terms, the purchase involving no greater liability than a cash payment of \$10 and subsequent monthly payments of a similar amount, which includes the 8 per cent. interest charged on unpaid balances. The firm may be said to specialize in revenue-producing properties, both business and residential. A considerable amount of business is transacted in farm and city mortgages, on which the investor secures from 7 to 8 per cent. net, the interest being guaranteed by the firm. Good openings for investment frequently occur in discounting agreements for sale, these transactions yielding from 10 to 20 per cent. on unimpeachable security.

The firm acts as agent in Moose Jaw of the Norwich Union Assurance Company, London and Lancashire Guarantee and Accident Company, the Imperial Guarantee

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and Accident Company, and others, and is provincial manager in Saskatchewan for the Sovereign Life Assurance Company.

The department of property management and rentals is in charge of Messrs. H. J. Fuller and C. H. Hoskins. Insurance matters, which are in the hands of an English solicitor, receive considerable attention from Mr. Hollingsworth. The three principals, Mr. Manley, Mr. Pierce, and Mr. Hollingsworth, are Canadians who have had many years of experience in real estate and allied business matters in Western Canada.



RICHARD LONEY & CO., LTD.

This real estate, loan, and insurance company of Moose Jaw was incorporated under Dominion of Canada Laws in December, 1912.

The company are sole owners of districts known as Hillcrest, Westmore, and Britannia Park, all of which are situated within the limits of the city of Moose Jaw. Other properties suited to business and residential purposes are also considerably dealt in, as well as farm lands, both raw and improved.

Some idea of the remarkable progress that has been made in Moose Jaw may be formed from the fact that property in Hillcrest which six years ago sold at \$7 per foot is to-day quoted at \$450 per foot, the increase in value thus represented amounting to about 6,000 per cent. Nor in the opinion of Mr. Loney does this extraordinary figure represent the full extent of the development which is to be looked for, for with the increased railway facilities with which the district is now being provided and with the industrial growth that is taking place on all sides, he considers that a further rise in value is more than probable.

Investments on first mortgages on improved business and residential properties produce from 7 to 8 per cent., and a considerable business is transacted by the firm in this direction. The maximum amount loaned is 50 per cent. of a conservative valuation of the property made by the firm. Properties upon which advances are made are insured and the policies made payable to the mortgagee.

Agreements for sale, which constitute a favourite form of investment in Canada, are extensively handled. These agreements are discounted from 10 to 15 per

cent., securing to the investor from 18 to 20 per cent. on the best kind of security.

The firm act as agents for investment purposes for several prominent Canadian financial and insurance corporations. They are sole agents in Moose Jaw for the London Assurance Corporation, the Northern Assurance Company, the Guardian Assurance Company, the Scottish Union and National Insurance Company, and several leading Canadian and American corporations.

Mr. Loney, who is a Canadian, entered the province of Saskatchewan in 1904. Amongst the important companies with which he is connected as president or in some other capacity may be mentioned the Saskatchewan Bond Corporation, Ltd., Canadian Standard Automobile and Tractor Company, Ltd., and Crichton's, Ltd. He is first vice-president of the Western Canadian Associated Boards of Trade and President of the Southern Saskatchewan Associated Boards of Trade, as well as having been President of the Moose Jaw Board of Trade 1910-11. He is also, it may be added, a major in the 60th Rifles of Canada.



ROBIN HOOD MILLS, LTD.

The honour of owning one of the largest flour mills in Western Canada belongs to Moose Jaw, in which city is the home of the Robin Hood Mills, Ltd.

This company originated in the United States of America and established a branch in Moose Jaw in 1909. The name at first chosen for the Canadian Mills was the Saskatchewan Flour Mills Company, but in 1912 the name under which the company operates in the United States was adopted. The Canadian business is capitalized at \$200,000.

Among a number of large buildings that constitute the plant, the huge elevator takes the leading place in point of magnitude and interest. This elevator is one of the largest of its kind in the world, and is built entirely of concrete and steel, not a particle of wood being used in the entire structure. Forty-six bins, of which 12 hold over 15,000 bushels each, have a capacity of 250,000 bushels. The elevator consists of two parts, the work-house and the storage bins. Within the work-house is a complete equipment of machinery which by a number of processes renders the wheat fit to grind. The grain can be

handled at the rate of 5,000 bushels per hour, which is probably the present record for Western Canada. The elevator machinery is all electrically driven, power being obtained from the company's own powerhouse.

Before the wheat can be ground into flour it has to be subjected to a number of processes which gradually eliminate all impurities, separating the middlings and constantly reducing the wheat. During the actual grinding constant supervision is exercised over the flour, the company having instituted a system of hourly tests, so that any inconsistency in quality may be speedily detected. In addition to this a "batch" of bread is baked every day.

An oatmeal plant is also operated by the company, the daily milling capacity being 350 bushels. As in the case of wheat, the oats are subjected to an exhaustive process of cleaning before being transferred to the graders and divided into two sizes. The larger oats are used for milling, the smaller being utilized in the manufacture of various stock feeds. An important process in the manufacture of oatmeal is the drying of the oats, which is done by passing them over a series of pans, steam heated to a high degree. This process keeps the hull brittle and imparts the proper flavour to the oats. They are then transferred to a cooling tower before passing to the grinding machinery.

Mr. F. A. Bean, Mr. F. A. Bean junr., and Mr. J. J. Kovarik are respectively president, vice-president and manager. All three take an active part in the management of the business.



ROSEDALE FARM

This farm, which is owned by Mr. J. E. Wilson, consists of 640 acres in the vicinity of Rouleau, Saskatchewan. Mr. Wilson, on entering Western Canada from Ottawa in 1906, purchased a half-section at \$12.50 per acre; a second half-section was purchased two years later at \$26 per acre. The farm carries a framehouse of nine rooms and stables (40 by 68 ft.), providing accommodation for 32 horses and cattle. A frame stable (24 by 26 by 12 ft.), situated in the northern half-section, provides additional accommodation when required. Live stock on the farm at the time of writing totals 22 horses, valued at \$4,500, and 7 head of cattle, valued at \$350. The value of the farming implements of all



RICHARD LONEY & CO., LTD., MOOSE JAW.

1. PUBLIC LIBRARY, MOOSE JAW.
3. CRESCENT PARK, MOOSE JAW.

2. VIEW OVER CITY FROM ABATTOIRS.
4. HIGH STREET, MOOSE JAW, LOOKING WEST



RICHARD LONEY & CO., LTD., MOOSE JAW.

1. REAPING AND BINDING NEAR MOOSE JAW.
3. LAND TITLES BUILDING, MOOSE JAW.

2. ON THE MOOSE JAW RIVER.
4. VIEW FROM ROTHESAY PARK, MOOSE JAW.

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descriptions has been estimated at \$3,000. This sum includes the value of a threshing outfit, two binders, three disc ploughs, two gang ploughs, one disc harrow, two sets of drags, &c. Two gas engines are in use upon the property, as well as seven wagons and two water-tank wagons. With the exception of 40 acres, the farm is entirely cultivated, the more important cereals being grown as under:

Wheat	...	...	290 acres
Oats	...	...	170 "

The balance of the acreage is summer-fallowed. A large granary to be found on the estate affords storage for 7,000 bushels of grain, and six portable granaries provide for 2,000 bushels each. The entire property is fenced, the length of the fencing running to about 7 miles. Good water is to be procured from a well

SASKATCHEWAN BOND CORPORATION, LTD.

The Saskatchewan Bond Corporation, Ltd., was incorporated in November, 1912, with an authorized capital of \$1,000,000, to deal in stocks, bonds, and debentures on a commission basis and to provide capital by the issue of bonds and preferred stock for business and manufacturing enterprises.

The firm handles a considerable amount of money for investment in industrial and municipal concerns.

The officers of the company are: president, Mr. Richard Loney; first vice-president, Mr. J. Edward Caldwell; second vice-president, Mr. C. E. Austin; treasurer, Mr. A. W. Irwin; secretary, Mr. D. E. McIntyre.

Mr. R. Murdie, the general manager of the company, is a native of Forfar, Scot-

Western provinces for the establishment of manufacturing and commercial industries of all kinds.

SECURITY LUMBER COMPANY, LTD., MOOSE JAW

This company originated in the Saskatchewan Elevator Company, Ltd., of Winnipeg, from which it was an off-shoot in 1910. It is, however, at the present day an independent concern.

The company are retailers of lumber, laths, shingles, and all manner of mill work and builders' supplies. Its products are marketed by 55 yards situated at different points in the province of Saskatchewan. The principal yard is situated at Moose Jaw, and covers an area of 50,000 sq. ft. The yard at Regina, however, is practically as large.



SECURITY LUMBER COMPANY, LTD., MOOSE JAW.

1. HEAD OFFICE AND YARD, MOOSE JAW.

2. YARD AT REGINA.

at a depth of 45 ft. Mr. Wilson, it may be added, is also the owner of a house containing eight rooms and a lot (50 by 120 ft., in the town of Rouleau.



land, who entered Canada in 1907. Previous to joining the company under review he acquired a considerable amount of banking experience. Mr. Murdie states that there is practically an unlimited field in the

The aggregate value of stock carried by the organization represents a value of over \$500,000, whilst a further \$180,000 has been invested in plant.

The business of the company is trans-

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acted locally, clients being almost exclusively farmers and others residing beyond the limits of the larger centres, and builders and contractors in such towns as Moose Jaw and Regina.

Over 100 men are employed, white labour being strictly adhered to.

The capital of the company is \$750,000, of which \$600,000 has been paid up. During the last two years, it may be remarked, the company has trebled its paid-up stock, whilst investments have also been trebled in working plant, &c.

The principal officials are: Colonel A. D. McRae, president; Mr. A. R. Davidson, vice-president; Mr. G. C. Ingram, manager and secretary.

Colonel McRae, the president, is vice-president of the Canadian Western Lumber Company, on the board of which appears the name of Colonel A. R. Davidson.

Mr. Ingram, who is a Scotchman by birth and has had 21 years' experience of the lumber industry, devotes his attention entirely to the concern under notice.

SECURITY LUMBER COMPANY, LTD., REGINA

The Regina branch of the Security Lumber Company, Ltd., was established on May 14, 1912. Since this comparatively recent date the business transacted at this centre has grown at an exceedingly rapid pace. The yard area covers 300 by 300 ft., to which must be added an auxiliary yard measuring 100 by 150 ft., the inclusion of which was necessitated by the demands of the business.

Including the head office in Moose Jaw, the Security Lumber Company now controls 55 yards, all of which are situated in Saskatchewan. A stock of about 1½ million ft. of lumber is usually carried. This consists of all kinds of building material in fir, spruce, pine, maple, and oak. Amongst the stock may be found shiplap, lath, shingles, lime, plaster, cement, hair for mixing, windows, doors, and all interior fittings.

At the Regina branch about 20 men are employed. This yard, which forms the distributing point for 25 of the other yards owned by the company, was built by Mr. J. H. Flock, who now manages this branch. Mr. Flock is a native of Ontario. Before taking up his work at Regina, Mr. Flock acquired 22 years' experience of the

lumber business in the United States, of which 18 years were spent with the Crowell Lumber and Grain Company, of Omaha, Nebraska.

R. B. SIMPSON

The farm owned by Mr. R. B. Simpson consists of 480 acres in the vicinity of Milestone, Saskatchewan. Of this farm one half-section was purchased by Mr. Simpson on his arrival from Illinois, U.S.A., in 1909 at a price of \$40 per acre. A further quarter-section was purchased in 1911 at a cost of \$45 per acre. The farm carries a house of four rooms and stabling for 24 horses and cattle. The stock to be found on the farm at present consists of 16 horses valued at \$163 each and five head of cattle valued at \$50 each. The farming implements, which have been valued at \$1,000, consist of two binders, three gang ploughs, two disc harrows, one set of drags, a cultivator, and five wagons, and other mechanical aids to agriculture.

A commodious implement shed and granary have been erected, the latter possessing the capacity of 2,000 bushels; and in addition four portable granaries containing 1,200 bushels each.

With the exception of 25 acres used for pasturage, the entire farm is under cultivation. The principal cereals cultivated are as follows:

Wheat (Marquis and Red Fife)	200 acres
Oats (Banner)	90 "
Barley	30 "

The balance of the acreage has been summer-fallowed. About 30 acres have been fenced, and good water is obtainable at a depth of 40 ft.

The nearest elevator, which is situated at Milestone, is not more than 2 miles distant, and the same town provides educational facilities.

G. L. SLATER & CO.

The firm of G. L. Slater & Co., financial agents, was established in Regina in 1910. Mr. Geoffrey L. Slater, who is now the sole proprietor of the business, specializes in business and residential properties. Improved farm land and raw prairie are, however, also handled. The firm has the exclusive sale of Highland Park, a district 160 acres in extent, surveyed into

blocks containing 40 lots of 25 ft. frontage. This property is situated 1¼ miles from the post office. The firm is frequently able to discount agreements of sale upon very favourable terms to the investor. These produce about 15 per cent. All titles are carefully investigated, and unless perfectly clear are not handled. Mr. Slater was born in Canterbury, England, and entered Western Canada in 1905. He was for five years a member of the Royal North-West Mounted Police. Some of the success that has attended his business life in Canada may doubtless be ascribed to a period of five years spent in an accountancy office in London, England, in company with Mr. P. H. Slater, now an incorporated accountant in that city. Mr. Slater is in touch with numerous clients in Great Britain, for whom he invests large and small sums from time to time.

SMITH, YOUNGHUSBAND, AND SCATCHERD

The firm of Smith, Younghusband, and Scatcherd, real estate, loan, and insurance agents, was originally established in Moose Jaw in 1911 by Mr. R. H. Smith. The present title of the firm, however, was not adopted before January, 1913.

The firm does not handle subdivisions, but the purchase and sale of real estate on behalf of clients is extensively carried on, many investors securing large returns from judicious operations in this direction. Considerable as this business is, however, the firm may be said to specialize in loans on first mortgages on business and residential properties in Moose Jaw and other important centres in Western Canada. The amount of interest secured from these loans varies from 6 to 8 per cent., according to the state of the money market and the class of security upon which the loan is advanced. The loan itself does not exceed 50 per cent. of a conservative valuation of the property offered as security. This valuation is made by the firm. The mortgagee is further secured by an insurance policy covering the amount of the investment drawn up in his favour.

Another favourite form of investment is that known as the purchase of agreements for sale. These transactions yield from 15 to 20 per cent. Whilst these investments are of a more speculative character than those mentioned above, the risk incurred by the investor is still extremely slight, the

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utmost care and discretion being exercised by the firm in the conduct of these operations.

Messrs. Smith, Younghusband, and Scatcherd are sole agents in Moose Jaw and district to the Palatine Insurance Company of London, the Employers' Liability Company, the London Underwriters, the London Guarantee and Accident Corporation, and several leading Canadian and American companies. The three partners, Mr. R. H. Smith, Mr. R. H. B. Younghusband, and Mr. E. C. Scatcherd, are Canadians by birth; all possessed considerable experience of real estate matters before the formation of the firm. Mr. Smith is a member of the Canadian Society of Civil Engineers, Mr. Younghusband was formerly connected with the hardware business, and Mr. Scatcherd was for nine years with the Canadian Bank of Commerce; during three years of this time he acted as accountant at the company's branch in Moose Jaw.



SMYTH AND BEGG

Mr. W. Oswald Smyth, barrister and solicitor, first commenced to practise in Swift Current in 1905. He was responsible for all the local work in connection with the incorporation of Swift Current as a town, an event which took place shortly after this date, and he has since been continuously retained as town solicitor. In 1911, the practice having grown very considerably, Mr. Begg was admitted to the partnership. The firm now acts as solicitors to the Bank of Ottawa, Royal Bank of Canada, and the local Board of Trade. In addition to his legal interests, Mr. Smyth holds a seat on the directorate of the Swift Current Farmers' Milling and Elevator Company.



SNIDER-DOHAN, LTD.

The firm of Snider-Dohan, Ltd., of Swift Current, Saskatchewan, is carrying on business in real estate, loans, and insurance, in the latter of which they represent a very strong body of companies. These include the Royal Exchange Insurance Company, London, England; the North British and Mercantile Insurance Company, London, England; the Springfield Fire and Marine Insurance Company, Massachusetts, U.S.A.; the Caledonian Fire Insurance Company, Edinburgh, Scotland; the Liverpool and Manitoba Fire Insurance Company;

the Occidental Insurance Company of Wawanesa, Manitoba; the Canada National Insurance Company of Winnipeg; the Pacific Coast Insurance Company of Vancouver, and the Sovereign Insurance Company of Winnipeg.

Mr. A. W. Snider, the president, is a man of varied interests in the Canadian West. In addition to the very active part he plays in Snider-Dohan, Ltd., he is also the secretary-treasurer of the Swift Current Land Company, president of A. W. Snider & Co., Ltd., and of the Swift Current Farmers' Milling and Elevator Company, Ltd., a member of the board of governors of the Swift Current General Hospital, and a trustee of the Anti-Tuberculosis League of Saskatchewan. He also takes a keen interest in the financial welfare of the town. The vice-president, Mr. Thomas P. Dohan, is a native of Danville, Quebec, and came to Western Canada in the service of the Canadian Pacific Railway Company in 1903. He remained with that company for eight years, and joined Mr. Snider in 1911. Mr. A. V. Trotter is the secretary-treasurer.



STOREY AND VAN EGMOND

This well-known firm of architects was established in Regina in 1906. Both Messrs. Storey and Van Egmond are Canadians by birth. Amongst the many buildings designed by the firm may be mentioned the McCallum Buildings, of 10 stories, the Collegiate Institute, Normal School, Public Library, and Y.M.C.A. Building. In fact, the majority of the public buildings in Regina have been designed by Messrs. Storey and Van Egmond. The firm also undertakes work in other districts and is responsible for a great deal of work for the Provincial Government.



SWIFT CURRENT CEMENT PRODUCTS COMPANY, LTD.

This company, which was incorporated in 1913 with a capital of \$50,000, is engaged in the manufacture of all kinds of cement products, such as concrete bricks, building blocks, dimension stone, sewer pipes, fence posts, and lawn vases. Poured stone, as used in cornices, brackets, and capitals, is also manufactured. Practically all the building material is made by power machinery of the most modern type. The plant includes two automatic power-tampers,

an automatic power-mixer, and a large variety of design moulds for the manufacture of blocks and ornamental work. These moulds, being constructed of steel, ensure correctness of detail, and are not subject to contraction such as takes place when wooden moulds are used. Two electric motors supply motive force to the machinery.

The capacity of the plant at present installed amounts to 600 building blocks per day, in addition to dimension stone and ornamental work. It is anticipated, however, that the capacity of the plant will shortly be doubled. Twenty hands are employed. Future extensions are provided for by an acre of land owned by the company, in addition to the one acre at present occupied by the plant and stock-yards. The working plant building measures 50 by 150 ft., and is situated about 60 yards south of the Canadian Pacific Railway track. A further building for the manufacture of sewer pipes and culverts is at present under construction. The stainless white Portland cement used for facing bricks and blocks and for ornamental work is imported from the United States. Skilled hands employed in this branch of the work receive from \$3 to \$4 per diem. Amongst the operations contemplated by the company is the erection of modern concrete residences of unique and artistic design.

A feature of the material manufactured by the Swift Current Cement Products Company is that it is practically impervious to moisture. A test made by the writer showed that moisture which was absorbed by a vitrified pressed brick within a few seconds still remained upon the surface of the company's product after a very considerable period of time.

Mr. Cobb, the general manager, was engaged in Reno, Nevada, in the manufacture of cement products for three years previous to the establishment of the company. Mr. Spalding, who is also an American, was engaged in the wholesale coal business in Chicago for 20 years before entering the Dominion to establish the company under review.



THOMPSON, CAMPBELL, SMITH, AND BAKER

The firm of Thompson, Campbell, Smith, and Baker, of Moose Jaw, was formed in 1912 by the amalgamation of two firms which, under the titles "Thompson and Baker" and "Smith and Campbell," had for 16 months

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been conducted as independent organizations. In addition to the considerable real estate business transacted by the firm, such matters as investments, loans, and insurances are handled. Residential properties and so-called "inside" and "close-in" properties are extensively bought and sold for clients. Another form of property figuring prominently on the firm's books is that known as unimproved farm lands, whilst improved farms—that is, farms upon which buildings have been erected—are also dealt with in large numbers.

Loans on first mortgage are negotiated by the firm upon improved farms and city properties. This form of investment is one which commends itself to capital in Canada, since from 7 to 8 per cent. can safely be obtained by the investor. The firm in these cases make their own estimate, which is calculated upon conservative lines, and the sum loaned does not exceed 50 per cent. of the total valuation. Insurances are paid by the mortgager, and are drawn up in favour of the mortgagee. Agreements for sale are discounted at from 10 to 15 per cent., and the investor takes interest at the rate of 8 per cent. upon all unpaid balances. Where no first mortgage exists on the properties, this form of investment, while producing a higher rate of interest, prac-

tically possesses all the security of a first mortgage. Whilst dealing with investments, it may be mentioned that the firm act as investing agents for several leading loan and insurance companies in Canada. As an instance of the type of real estate business occasionally transacted, it may be added that the firm placed in the market the tract of land known as Westview, situated about $3\frac{1}{2}$ miles from the centre of the city and occupying 320 acres. Upon the property, streets varied in width from 66 to 100 ft. At the present moment about three-quarters of the property has been sold.

The firm are the sole representatives in Moose Jaw and the surrounding district of the New York Underwriters' Agency, the Aetna Fire Insurance Company of Hartford, Connecticut, the Connecticut Fire Insurance Company, and other prominent companies. The four partners, who are Canadians by birth, take a personal interest in the working of the firm, and possess a sound knowledge of commercial affairs gathered in many parts of the Dominion.



J. A. WESTMAN AGENCY

This financial agency was established in Regina by Mr. J. A. Westman in 1908.

The firm, of which Mr. Westman is still the sole proprietor, may be said to specialize in the sale of close-in business and residential properties. A number of buildings are owned by the firm, including Westman Chambers, containing 78 two-roomed suites. A large business is transacted in the direction of loaning funds on first mortgage on improved farms and city properties, both business and residential. These investments yield from 6 to $7\frac{1}{2}$ per cent. net to the investor, small sums producing the same rate of interest as larger amounts. The firm loans about 40 per cent. upon its own valuation, and the security is insured in favour of the mortgagee against damage by fire.

Agreements for sale are discounted at from 10 to 15 per cent. These investments also carry interest upon the balance of outstanding payments.

The firm are the sole agents in Regina of the London and Lancashire Fire Insurance Company and the Palatine Insurance Company, as well as of a number of leading American and Canadian companies.

Mr. Westman, who was born in Ontario, entered Western Canada in 1906. He had been engaged for some time previous in real estate operations in Eastern Canada.



MOOSE JAW RIVER.



TWENTY-FIRST STREET, SASKATOON.

HIGHWAYS MANITOBA

By ARCHIBALD MCGILLIVRAY, PROVINCIAL HIGHWAY COMMISSIONER, MANITOBA



SIDE by side with enormous development in agricultural and industrial pursuits there has also been displayed by the rate-payers and authorities of Manitoba a keen interest in the problems of transportation.

In the early days of the province, the comparatively smooth and level condition of the surface of the prairies largely diminished the necessity for expensive roads. The wide dispersion of the settlements in those days, coupled with the scarcity of fencing, afforded ample opportunity for the selection of a useful, if more or less circuitous, route between different points. It was not until the intervening lands began to be settled and the properties became fenced that something definite had to be done towards improving the roads through the country.

The first system of surveys, still obtaining over the greater portion of the organized part of this province, provides an allowance 99 ft. in width for road purposes around every section or square mile of land. The balance of the province is surveyed under the third system, which provides road allowances, 66 ft. wide, running due north

and south every mile, and east and west roads every two miles, or for a road around an area of two sections. The second system of surveys, which is similar in every respect to the first except that all roads of a north and south tendency are meridians instead of being parallel to the eastern boundary of the township in which they are situated, does not affect this province. Besides these roads there is a considerable mileage for which reservation was made in the original title from the Crown. These rights-of-way follow some of the old stage and traffic trails of pre-provincial days, and still retain their importance as leading arteries of transportation.

In the organized portion of the province—that is, the portion formed under local municipal governments—there are about 62,000 miles of road allowances. Of this mileage there are at present about 31,800 miles upon which more or less improvement work has been done. The character of improvement has been confined almost altogether to draining and grading, with the exception of a small mileage of gravel and macadam roads. This does not apply, of course, to the incorporated cities and towns, where various classes of pavements have been laid.

Expenditure upon, and matters connected with, highways are directly in charge of the

council of the municipality affected. Until a few years ago the rate of 20 mills in the dollar which these municipalities were allowed to levy upon the assessed value of their rateable property was sufficient to provide for the upkeep of the roads. It was not until a flood of immigration caused this matter to become one of vital importance that legislation was passed enabling the different municipalities to borrow money to carry out the improvement of highways.

There are at present two Acts on the Statutes of the province dealing with the construction and improvement of highways.

The Good Roads Act enables a municipality to borrow a sum of money not exceeding 3 per cent. of the assessed valuation of its rateable property, the payment of principal and interest being distributed over a period not exceeding 50 years. The Provincial Government may guarantee the debentures of a municipality in such a case. To avail itself of the provisions of this Act, the municipal council must submit a plan of the contemplated improvement to the Minister of Public Works for the province. Before such a scheme can receive the approval of the Minister it must be considered of sufficient importance in the benefits that it will bring to the municipality as a whole

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to warrant its being undertaken. The object aimed at is to induce the municipal councils to bring their main roads up to as high a state of efficiency as is warranted by the traffic at present using them, due regard also being paid to future development and the needs of the district.

The Highways Improvement Act was placed on the Statutes for the purpose of endeavouring to improve the communication and transportation facilities between the larger centres of population in the province. This is to be accomplished by connecting some of the cities and towns by highways of a higher standard than would be possible in the ordinary course of events.

Towards the construction and improvement of highways under this Act, the Government of the province may contribute

an amount equal to two-thirds of the cost, the municipality through which such a highway is built contributing the remaining one-third.

The councils of the municipalities through which such a road would pass are responsible for the carrying out of the project through their respective municipalities, according to plans and specifications prepared either by the Provincial Department of Public Works or by others acceptable to the Department. These roads are required to be of gravel, macadam, or other high-class paving.

The construction of these roads, while producing local benefits, will eventually prove of vast significance in providing highways of provincial importance, and will supply an existing need of through routes. The necessity for such through

routes constantly increases from the growing use of the automobile as a medium of transportation.

An effort is being made, and has so far been very successful, to induce the various councils to place their road work in charge of competent and experienced supervisors, who will be directly responsible to the councils for the proper performance of the work undertaken. This is the more necessary since the devolution of authority and responsibility from one councillor to another, necessitated by the expiration of a tenure of office, is not conducive to the best results being obtained, or to uniformity of procedure.

It is, however, becoming generally recognized in Manitoba that the building of good roads adds considerably to the educational and commercial welfare of the people.



SASKATCHEWAN

THE Provincial Government of Saskatchewan has for some time been keenly interested in the question of providing good roads. Populated as it is largely by farmers, to whom ready access to the nearest market, frequently represented by the grain elevator, is of considerable importance, the province becomes the more dependent upon its highways as its population increases. Comparatively recently a Highways Commissioner was appointed by the Government to administer the funds appropriated for the improvement of roads; at the same time an expenditure from capital account of \$5,000,000 was decided upon. During 1912 \$1,500,000 of this sum was expended. The Commission has now formulated definite and comprehensive plans and is proceeding to make vigorous use of the material and labour at its disposal.

In order thoroughly to understand the policy of the Government with regard to highways, it is necessary to review briefly the history of road building in Saskatchewan since the inauguration of the province in 1905. Since that date the Department of Public Works has spent annually on the improvement and maintenance of roads from \$200,000 to \$700,000, and a system has gradually been evolved which seems to be most consistent with

conditions as they exist throughout the country.

In 1906, when it was decided to carry out an improvement in a certain locality, one of the local residents was appointed to organize the local labour and to do the work. As a result road improvement was regarded as of secondary importance and only attended to after the appointed officer had satisfied the claims of his own business. The work was, in fact, often neglected, or executed at a season of the year when the best value could not be obtained for the amount expended.

In 1907 a new plan was adopted. A number of the best of the 1906 foremen were appointed to act during the full season. This system resulted in a marked improvement, as the foremen soon became expert in laying out the work, less time was wasted in misdirected efforts, and the quality and style of the work became more uniform throughout the province. This policy, with slight modifications, introduced to meet changing conditions, has remained in force up to the present time. Conferences of these foremen have been held, many manuals and publications regarding road building have been distributed to them and to the local authorities, and a force of skilful inspectors has constantly visited them during the progress of their work.

In 1910 grants were made to the rural municipalities, which were required to make their work conform to a certain standard, information was collected, and a study of local conditions was made. Roads were classified according to their importance. Those carrying heavy traffic and serving large areas were classed as "main roads." These were considered to possess provincial interest. Roads with small traffic serving small areas were termed "local," and were attended to by the local authorities. Many improvements, however, were found to be beyond the resources of the local authorities. In these instances funds were provided from the Provincial Exchequer. For instance, the majority of the bridges with spans of 20 ft. or over and many culverts and small bridges were constructed and maintained by the Provincial Government. Whilst some steel bridges on concrete foundations were treated as permanent structures and paid for out of capital, the cost of the greater number of the bridges was defrayed from current revenue.

The Highways Commission already mentioned now undertakes to defray 50 per cent. of the amount expended by any municipality on the improvement of additional main roads. The Commission also has a large force of men under its orders, and itself undertakes the improvement of

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roads in districts in which the municipality is financially unable to carry out this work.

The Commission has also constructed a large number of permanent concrete and

steel bridges, the work being let out on contract. The activities of the Highways Commission, however, may be said to cover every detail of the work of road construction and maintenance; difficulties are

investigated, experts are sent, advice is given, and every effort is made to impress upon the local authorities the importance of good roads as a factor in the development of the province.



ALBERTA

THE actual disbursement of money voted for highway purposes within Alberta and the general supervision of the work upon which it is expended falls within the scope of the Public Works Department. This branch of the administration, by extending main roads, by building bridges, and by installing ferries, has endeavoured to keep pace with the phenomenal increase which has of late years occurred in the population of the province. The provision of new facilities, however, has by no means constituted the sole work of the Department in this branch of administration, since the increase in the weight and size of threshing and traction engines has imposed upon existing bridges and roads a strain which in many instances they were not designed to carry. With a view to minimising the danger that might result from the imposition of too great a weight upon bridges the Department has inaugurated a system of "Notices," erected upon these structures, showing the load they are capable of carrying.

The policy of the Department as regards the provision of roads is, as has been intimated, largely concerned with the upkeep and extension of main thoroughfares.

Side roads in Alberta are most generally maintained by local improvement districts, where such districts have been organized. The Department, however, is keenly interested in all work undertaken in this connection, and with a view to assisting local bodies issued, a short while since, a bulletin dealing with road construction matters. This bulletin was circulated amongst road foremen entrusted with the actual carrying out of the work as well as amongst those who decided the scope of their labours. The efficiency of the road foremen is, indeed, a matter to which the Department attaches considerable importance.

Bridge work varies from the construction of important steel structures to the provision of small timber bridges on piles. All bridge work is carried out by regular bridge crews under Government foremen. In 1909 the Department completed three steel bridges on concrete substructures, viz., at Taber, four 175 ft. spans over Belly River; at Red Deer, two 200 ft. spans over Red Deer River; and at Macleod, three 175 ft. spans over Old Man River. Altogether the total number of bridges constructed during the year was

235, of which 219 were timber structures; in addition 95 bridges were overhauled for repair and repainting. During 1910, 271 bridges were constructed, nearly all of them being standard pile trestle structures. One 70 ft. wood truss, built by settlers, was taken over by the Department. In addition 76 bridges were repaired and reconstructed. In 1911 and 1912, 619 bridges were constructed, 17 being steel structures.

These figures will serve to show the work which is steadily being accomplished in the matter of improving inter-provincial communication.

As a result of the extension of the railroad west of Edmonton the Department was urged to construct a short and direct road into the Grande Prairie and Peace River country. A preliminary inspection having shown that no insuperable difficulties were likely to be encountered, this important work was taken in hand in 1910. Ferries were installed upon the greater streams and the lesser ones bridged, and though the road is at present of necessity far from perfect, a way has been opened into a district which is likely steadily to increase in importance for many years to come.



POST OFFICE AND CUSTOM HOUSE, SELKIRK.



TRACTOR HAULING 6,000 BUSHELS OF WHEAT IN ONE LOAD.

POWER FARMING IN WESTERN CANADA

By RAYMOND OLNEY, MEMBER OF THE AMERICAN SOCIETY OF AGRICULTURAL ENGINEERS



HE expression "power farming" is an arbitrary term. It means the application of mechanical power to farming operations, and refers particularly to the use of the farm tractor for replacing, to a large extent, the power of animals.

As a factor in the opening up of Canada, power farming cannot be too highly estimated. It has given to the farmers of Western Canada untold assistance in the exploitation of the resources of the soil.

The hardy pioneers of the West were severely handicapped in several ways. But perhaps the greatest problem they had to contend with was the lack of power to carry on the work of putting this great acreage under cultivation for the production of crops.

It was, therefore, sheer necessity that brought the farm tractor to Canada, for animals were not to be had in sufficient numbers to furnish the new-comers with the required amount of power.

At the present time Canada offers the largest field for the output of traction engines. This, as has been stated before, is due almost entirely to the lack of available animal power. It is said that during the year 1911, 4,000 tractors were shipped into Canada. During the season of 1912 this number was considerably more than doubled. One company broke all previous records, sending into Canada the biggest shipment of tractors and farm

machinery the world has ever known. It consisted of a trainload of 102 flat cars. Each car contained a kerosene-burning tractor, the rest of the space on the car being taken up by grain separators, engine gang ploughs, and other farm machines.

At the present time the average Canadian farmer looks upon the tractor as a necessity. When the first gas tractors went into Canada it was realized that they were still in an experimental stage. They were unreliable to a large degree, and consequently many failures resulted. But now opinion as to these modern farm horses is changing. There are many firms manufacturing reliable tractors that will in every way meet the claims which their manufacturers make for them.

The time is coming, however, when the tractor will be considered not only a necessity as a source of power, but also a necessity from an economic standpoint.

Already a great many men see in the tractor a means of reducing the cost of producing their crops and thus of securing an increase in their net returns. The fundamental importance of the tractor to the Canadian farmer can be expressed in these words: it reduces the cost of crop production.

Canadian conditions are such that they are particularly adapted to the use of the tractor. The vast stretches of level prairie are especially favourable to the most successful operation of an engine. Long fields of large acreage make for the most economical performance of the power unit.

Another advantage of the tractor has been realized by Canadian farmers. They have found that it has made possible a more rapid development of the country. We have but to look at the manufacturing industries and transportation to realize the influence of the use of mechanical power.

Speed is an important essential in all agricultural operations. Ploughing must be done as quickly as possible to make way for seeding. Seeding must also proceed rapidly in order to take advantage of good weather conditions. Harvesting also must go on at a rapid rate to secure the grain when it is in the best possible condition. Threshing must follow harvesting; and here again speed is essential in order that the grain may be separated from the straw and hauled to market before winter conditions set in.

It is here that the mechanical horse, with its muscles of iron and steel, meets the farmer's requirements. Because of the large power-capacity and the endurance of the tractor, it more nearly meets the needs of the Canadian farmer than does animal power. It has the capacity of twice the number of horses that equal it in power and ten times their endurance. During the busy seasons of the year the farmer desires to get a large amount of work done in a short time. He works his tractor night and day, a thing that he could not do were his power supplied by horses. He provides two crews of men, who keep the tractor busy 24 hours of the day, stopping only for fuel, lubricating oil, and any minor

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repairs or adjustments that may be needed on the engine or equipment. And in this way the normal capacity of the machine is doubled.

On the other hand, horses are good for 8 to 10 hours a day, and during the busy seasons when a large amount of heavy drudgery is required they are severely

keeping horses. Feed for horses will cost from three to five times as much as fuel for a tractor which has the same power-capacity.

The horse requires about five acres of cultivated land to produce its food. Every horse that is replaced by an engine means so much more land which can be made to

After the season's work is over it is housed and needs no more attention until the following year, except where overhauling and repairs are necessary.

As we look back over the history of Western Canada for the past four or five years and realize the enormous development which the tractor alone has brought



1. TRACTOR PLOUGHING, SEEDING, AND HARROWING AT ONE OPERATION. 2. PLOUGHING IN SASKATCHEWAN.

handicapped. Especially is this true in the work of ploughing. It has been found that in producing the wheat crop, 60 per cent. of the power required is expended in the shallow ploughing which is commonly practised. If deep ploughing is followed, even a larger percentage of power is required.

Again, the high price of feed has contributed very largely to the expense of

produce food for man. The tractor consumes nothing that can be converted into food for human beings. With the constantly growing demand for food products this is a big advantage. It should also be borne in mind that horses must be fed every day of their lives, while an engine consumes fuel only while it is working. In a case of a tractor all expenses stop with the wheels.

about, it is difficult to imagine the extent to which this development will reach in the future. There are millions of acres of virgin prairie soil which the plough has never touched, and these are being developed as rapidly as possible. Mechanical power will be one of the greatest factors in the future development of the Prairie Provinces of Canada.



VIRGINIAN DEER.

FAUNA

GAME RESOURCES OF THE PROVINCES

By E. W. DARBEY, OFFICIAL TAXIDERMIST TO THE MANITOBA GOVERNMENT



THE student of natural history and to the sportsman, the three Prairie Provinces of Western Canada—Manitoba, Saskatchewan, and Alberta—afford a most inviting field. Within the confines of these provinces may be found all kinds of game and all the fur-bearing animals, as well as every game bird and every species of land and aquatic bird, migratory and resident, that haunt the region extending from the Arctic Sea to the great central plains of North America. Again, nearly every variety of fish inhabiting the northern waters of Canada may be taken in the great freshwater rivers and lakes, or in the salt waters of Hudson's Bay. Since the formation of the Hudson's Bay Company, 243 years ago, this vast territory has been the greatest hunting ground on this continent, and has produced annually thousands upon thousands of dollars' worth of rare and valuable peltries, yet the supply of animals and birds is still far from being exhausted. As settlement progresses northward, however, and those portions of the country are opened up which to-day contain the greatest number of fur-bearing animals, we must anticipate a steady diminution in their

numbers. However one may deplore this, it is inevitable; but the people of the present, and probably for the next two or three generations, will not live to witness the total extinction of wild life in Central Canada. Many of the species can be preserved indefinitely by the establishment of game preserves in districts in which the land is not fit for agriculture or other economic purposes, and by the enforcing of protective laws. In all likelihood this will be done as soon as the authorities realize fully the importance of such a step. The timber reserves in various parts of the three provinces, and for hundreds of miles along the foothills of the Rocky Mountains, now afford an asylum for many kinds of animals which, without these shelters, would be ruthlessly destroyed by pot-hunters and those thoughtless people who take pleasure in needlessly killing these beautiful and harmless creatures of nature.

There is a prevailing opinion in Eastern Canada and Great Britain that Manitoba, Saskatchewan, and Alberta are all prairie. This is a mistake, since only the southern parts are of this character. In Manitoba there are vast areas of timber and numerous lakes and rivers; again, a considerable amount of rock country is to be found in the eastern and northern sections. In the two sister provinces, north of that noble stream the

North Saskatchewan River, 1,200 miles long, flowing from the mountains into Lake Winnipeg, the country is mostly timbered, and is also favoured with beautiful lakes and streams. Alberta is particularly fortunate in this respect, being proud to have within her borders such grand streams as the Athabasca and the Peace Rivers, and several lakes of considerable size. The Rocky Mountains form her western border, the foothills of which are densely timbered from the International boundary to her northern limit. It is in the timbered areas of the provinces that most of the game and fur-bearing animals are to be found, the only wild denizens of the prairie being the wolf, fox, badger, muskrat, beaver, antelope, and a few smaller animals; and also the prairie chicken and grouse. The prairie region in former years was the summer feeding ground of the bison, which grazed over its verdant expanse in countless thousands, if we are to believe the accounts of adventurous travellers in the early days. These magnificent ruminants are now only to be found in captivity in the Canadian national parks, with the exception of a few wood buffalo, which, having escaped the ruthless butchery to which their cousins on the plains fell victims, are now permitted to roam unmolested under Governmental protection in the forests at the extreme

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north-west corner of Alberta. The Federal Government owns several hundred head of plain buffalo. These are at present kept at Banff, Alberta, in the mountains, and at Wainwright, Alberta, on the prairie. At the latter place there are over one thousand head, and the herd is rapidly increasing.

The Moose.—The most plentiful of the big game is the moose or flat-horned elk (*Alces Americanus*). The range of this animal extends through the timber belts from the coasts of Labrador to the Pacific Ocean. The reason why it chiefly inhabits this great extent of wild country is the inaccessibility of the larger part of the region to human beings, as it yet, generally speaking, remains a virgin wilderness. The moose is now practically extinct in the United States, having been exterminated before the several State Governments thought of applying protective laws. The moose is the largest of the living deer, equalling or exceeding a horse in stature, and has broadly palmated antlers, which are found only on the male. Both sexes have on the throat a bell or dewlap, covered with long hair. Apart from the Alaskan moose, which, both in respect to stature and size of horns, is larger than the Canadian moose, the finest specimens of the species are to be found in the Prairie Provinces. Their numbers are also greater here than in other parts of Canada. One specimen secured in Northern Saskatchewan had antlers with a spread of 60 in., including a solid palm of 16 in. A 50-in. spread is now regarded as a large set of antlers.

The Wapiti.—The next member of the deer family is the wapiti (*Cervus Canadensis*), on the American continent commonly but incorrectly called elk, of which the European red deer is the prototype. It is characterized by its great size and its spreading and many-tined antlers. It has a well-developed brow and bez-tines. Its range is at this day confined to the country west of the Red River of the north, whereas it formerly extended as far east as the Atlantic Ocean and far south into the United States. It has, however, gradually been exterminated east of the above-named river and east of the Mississippi in the States. Wapiti are still very plentiful in the Prairie Provinces, hunters having been fortunate in securing a number of excellent heads during the past hunting season. The antlers of one of the specimens shot weighed, with

cleaned skull, 34 lb. and had a spread at the third prongs of 53 in., measured 51 in. in length, and a circumference between the bez and tez prongs of 8½ in., and had six heavy and well-developed prongs on each horn. The wapiti grows to a height of 5 ft. at the shoulder, and the average weight is 600 lb., but specimens have been taken weighing from 700 lb. to 800 lb. It is a much more difficult animal to hunt than the moose, on account of its keener sight and scent. Thanks to effectively enforced game laws its numbers have been increasing in Western Canada during the past few years, and it is to be hoped that this splendid animal will long be preserved to us.

The Caribou.—The third deer in importance as to size and number is the caribou, or American reindeer (*Rangifer caribou*). In size it is midway between the wapiti and white-tailed deer. The antlers are slightly palmated, and it is the only member of the deer family, excepting the antelope (though that animal may be included in the deer family only by a straining of terms), in which both sexes have antlers. We have two varieties, commonly called the woodland and barren ground caribou. The former is somewhat larger in stature, carrying heavier-built but smaller-sized antlers, while the latter is smaller in the body with larger and more branching antlers. Heads of the latter have been secured with over fifty points. These deer are known to the natives of the north as the "home deer" and the "travelling deer." The former are the woodland, which are to be found the year round in the timbered and swampy sections of the country. The "travelling" deer are so named because of their migratory habits. They travel great distances from north to south and back again with the change of the seasons, coming south in the fall and returning to the far north, in the region west of Hudson's Bay, in the spring. Wonderful stories are told of the vast herds of these barren ground caribou. Parties who have been in the North, and happened upon the caribou during their migrations, claim that from a distance the appearance of the vast travelling herds gives the impression that the whole country is a moving mass of antlers. On closer inspection it is found that they travel in small bunches, browsing and feeding as they go. It takes several days for the herds to pass a given point, so great are their numbers. They do not always follow the same route

in their migrations, as was proved a few years ago, when the herds which usually travel south-eastward in the Mackenzie River basin changed their route and went north-west, crossing over the mountains and passing down into the Yukon. The result of this change was disastrous to the natives, whose chief source of food during the winter months is the caribou. Had it not been for the traders who were in that part of the country, many of the natives would undoubtedly have starved to death. The districts where the caribou is most easily to be secured in Manitoba are in the country east of Winnipeg and in the country to the north, between Lakes Winnipeg and Manitoba. One very good specimen was found on the Whitemouth River, 80 miles east of Winnipeg, two years ago. In Saskatchewan and Alberta caribou are to be found north of the Saskatchewan River, and are easiest to get at from Prince Albert, Battleford, and Edmonton. Caribou also range through the Rocky Mountains in Alberta.

The Dominion Government in the spring of 1911 sent a number of Lapland reindeer, which were secured from the Labrador herds, into the Mackenzie River districts with a view of propagating them for transportation purposes, and mixing them with the native herds, the aim being to induce the natives ultimately to make use of the animals in the same way as the Laplanders do. This is a wise step, for there is a danger that, as the northern territories are made more accessible by the construction of railways and the establishment of other easy means of transportation, these herds of caribou will be slaughtered as the buffalo were, and the natives rendered entirely dependent on charity for their existence. Latest reports from the north are to the effect that the imported stock have taken kindly to their new habitat.

White-tail and Mule Deer.—We now come to the two smaller members of the deer family, the white-tail and mule deer, in which there is a greater confusion of names than in any other branch of the deer family. The white-tail or Virginia deer (*Odocoileus Virginianus*), also known as jumping deer, fan-tail, flicker-tail, and red deer in Ontario, is the common deer of North America. It is found throughout the United States, and has in recent years extended its range into the Prairie Provinces, and northward well towards Hudson's Bay. It is not quite as

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large as the mule deer, and is easily distinguished from the latter by the form of its antlers, which have one main branch bending forward and curving well into the front and bearing the tines upwards. The tail is also distinctive, being 12 to 15 inches in length, reddish on top, with a white tip, and white underneath. In the Prairie Provinces this deer is much larger than the typical form in Virginia, having much larger antlers and growing to a larger size. These deer are very hard to shoot, as on the slightest alarm they start away with a bound, and many a sportsman has emptied his rifle at fleeing animals with no result. The average weight of a full-grown buck is about 200 lb. If proper protective legislation is enacted, this deer will probably continue with us, since it prefers the fringe of settlements to absolute solitude. This accounts for the extension of its range into Manitoba and Northern Ontario. As the result of this habit it is enabled to feed in openings made by the axeman in clearing his farm; it also secures protection from its natural and worst enemy, the wolf, upon which the settlers make war in the interests of their live stock and poultry yards, and also for the monetary profits which wolf skins fetch in the markets and through municipal bounties.

The Mule Deer (Odocoileus Hemionus), also known as the jumping deer, black-tail, and bounding deer, is considerably larger than the white-tail deer, and has large ears and a white face with a black patch on the forehead. The tail is much shorter than that of the white-tail, having short white hair with a tuft of black on the end, the ear and tail resembling those of a mule. This is a distinctly Western deer, its range extending westward from the Mississippi and Red Rivers into the Rocky Mountains. The antlers are very different from those of the white-tail, coming out on a main prong and then branching out into tines, similar to the tines of a fork. The colour is greyer and the hair coarser than that found in the white-tail. Its movements are as characteristic and expressive as its form. In bounding away the white-tail holds its tail straight up and waves it from side to side, while the mule deer holds the tail down and swings it back and forth, the black tuft showing over the white disk of the rump. These deer are fairly common throughout the wooded districts of the

Prairie Provinces, being found between Lakes Winnipeg and Manitoba and throughout the smaller ranges of hills westward to the Rocky Mountains. Attempts have been made to cross the white-tail and mule deer in captivity, but without success. In their wild state, however, it is known that they have crossed. During the last two years I have received two authentic crosses, horns and skins both showing the cross distinctly. These are the only cases on record, so far as the writer knows, proving that these two species do not mingle together as a general rule.

The Antelope.—The last and least of the deer, both in point of size and numbers, is the antelope (*Antilocapra Americana*), also known as the prong-horned buck, which is found to-day in very limited numbers in the high dry plains in Southern Saskatchewan and Alberta. Owing to the settlement of the country it is being rapidly exterminated. The antelope is a beautiful and harmless creature, and it seems a pity that it cannot be preserved. The average weight of a full-grown bull is about 100 lb. The colour is a rich tan, with pure white patches. Both males and females have horns, a peculiar feature of which is that they are not shed as is the case with other deer. While the antelope's horns are similar to those of buffalo or cattle, they are branched, and as the new horn forms beneath the old one it forces the latter off as it grows. The antelope's bump of curiosity is largely developed, and hunters take advantage of this trait to tempt it to its destruction. Red flags are placed on a rise on the prairie within shooting distance from where the hunter is hiding under cover, and the antelope, coming forward to investigate, becomes an easy target for the hidden marksman.

Mountain Sheep and Goat.—The western part of the province of Alberta in the Rocky Mountains is the habitat of these two animals, which are not found on the plains. The American Big-horn (*Ovis Canadensis*) is a large sheep, standing at the shoulder about 3 ft., and a full-grown buck will weigh in the neighbourhood of 350 lb. The horns of the ewes are very much smaller than those of the rams. Heads with horns over 15 in. in circumference are now hard to secure. These sheep are difficult to hunt, as they usually resort to high altitudes and places difficult of access. Being both keen

of sight and hearing, they become apprised of the approach of danger at long range, and speedily dash to places of safety, where only the most experienced and intrepid hunters dare follow.

The Rocky Mountain Goat (Oreamnos Montanus) is one of the few animals that remain white the year round. This is also a large animal, being 3 ft. high at the shoulder and varying in weight from 200 to 300 lb. The horns of the goat are two spikes, curving backwards, and seldom exceeding nine inches in length and five in circumference. Good shooting country for both sheep and goat is being opened up in the Yellowhead Pass region by the construction of the Grand Trunk Pacific and Canadian Northern Railways. This district being newly opened up, both sheep and goat are fairly numerous. In fact, many kinds of big game can be found in this part of the country.

Fur-bearing Animals

The Bear.—Of the fur-bearing animals which are most sought after by the hunter, trapper, and sportsman, the black bear is the most common. This animal is found in the timber regions of all three Prairie Provinces. It varies in colour from light cinnamon to black, there being a variety of shades between these two extremes. Some of the largest that we have seen weighed in the meat 500 lb. The black bear is a shy and inoffensive animal, a dangerous one being less to be feared than an ugly dog, though there is an authentic case on record of a wounded bear chasing and killing the man who shot it. The grizzly bear is found at the present time only in the mountain and foothill sections of Alberta. This bear has the reputation of being the only animal that is really not afraid of man, but, even at that, is never the aggressor unless wounded or cornered. The grizzly grows to an enormous size, and its skin is greatly prized as a trophy by sportsmen.

The Wolf.—The next fur-bearing animal in point of importance from the sportsman's point of view is the large wolf (*Canis Occidentalis*), commonly called the grey wolf, buffalo runner, or timber wolf. These animals range in colour from black to white, with all shades between. In the extreme north they are much lighter in colour than in the southern parts of the Prairie Provinces. A large-sized specimen will stand 30 in. high at the



1. BUFFALO IN WAINWRIGHT NATIONAL PARK. 2. TIMBER WOLF.
3. WHITE-TAILED DEER. 4. CARIBOU. 5. BROWN BEAR.

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shoulder and will weigh up to 100 lb. This animal is the greatest enemy against which deer have to contend, and is extremely hard either to shoot, trap, or poison, being undoubtedly one of the most cunning and sagacious of the wild animals of this country. In the great hunt which the C.P. Railway organized three winters ago, to clear the game country in Northern Ontario of this natural enemy of the deer, it was found at the final round-up that they had not secured a single animal, though it was known that the region was infested with them. A single wolf has been known to do thousands of dollars' worth of damage on the cattle ranges of the West. They stop short of nothing, once they have tasted blood. They have been known to pull down two and three-year-old steers and full-grown horses. A Hudson's Bay Company party travelling from Norway House to Island Lake last winter with a trading outfit came across a pack of four timber wolves attacking a big bull moose on the river. They had hamstrung the moose, but he was still fighting vigorously with his antlers and forefeet as he lay on the ice, all the while bellowing furiously in his rage and despair. The wolves were running about their prostrate victim worrying him in every possible way, in order to hasten the time when they would enjoy the feast they supposed was awaiting them. With difficulty the trading party restrained their "husky" dogs, which are a cross with the wolf, from rushing into the mêlée. The dogs in their efforts to get into the fight chewed their harness into shreds. The sight of the men, however, did not scare the wolves, who, declining to leave their prey, were finally shot, the last one continuing the attack until he was dispatched. The party not only enjoyed moose steak for supper but secured a good day's catch of fur as well. One wolf who had two legs broken by a well-directed kick on the part of the moose was observed to continue to fight savagely. Wolves are found in greatest numbers in the timbered and ranching districts.

There are two wolves found on the prairies, the brush wolf and prairie wolf, the latter being commonly called the coyote. These are not so dangerous with respect to the destruction of stock as the grey wolf, confining their depredations to an occasional sheep and barnyard fowl, but are valuable for their pelts, the best skins

bringing as much as \$7 during the past winter.

The Beaver and Otter.—The other animals that are much sought after for their fur, and which are being protected in the Prairie Provinces (except in the extreme north), are the beaver and otter. A few years ago the beaver (*Castor Canadensis*) was threatened with total extinction in the West, but since the enforcement of protective laws they have increased rapidly, and are again inhabiting streams from which they disappeared many years ago; in fact, in some localities farmers are complaining that they have become a nuisance by causing the flooding of their hay lands. In cases where damage of this kind is occasioned the provincial governments now have a regulation whereby the colonies are reduced periodically. The beaver, as is well known, is principally remarkable for the wonderful engineering skill it displays in building water dams and felling large trees.

The Otter (Lutra Canadensis) is a member of the weasel family, and is at home both on the land and in the water. It has a thick, oily fur, and a layer of fat under the skin. The colour is of a dark rich hue, glossy in appearance, varying from brown to black. The fur is prized for its great wearing quality, and is largely used for coat collars and for lining coats for winter use. Owing to the value of the fur the otter has been persistently hunted, with the result that its numbers are to-day much less in Western Canada than formerly. The range of the otter practically covers the entire continent.

The Lynx.—The grey lynx (*Lynx Canadensis*) is known as lynx, bob cat, grey wild cat, licives, or loup cervea. The fur of this animal is of a beautiful soft grey colour, and has become very valuable during the past few years, pelts selling for as much as \$25 each. Its tufted ears and short bob, black-tipped tail will distinguish it from other cats. It is found in all the northern wooded districts of the West. One season it will be found in considerable numbers in some particular section of the country and the next season in another, its migratory tendencies thus being exhibited. The feet of the lynx are used by the Indians to make sleeping robes, which are highly prized, the heavy soft fur making a very warm but light covering. Another member of the cat family is known as the wild or bob cat (*Lynx Ruffus*). He is minus the tufts on

the ears and has a longer tail than the lynx, and is ringed with black and grey. He is a much smaller animal, and the fur is not used commercially and is of comparatively small value.

The Fox.—In Western Canada the following varieties of the fox family are to be found: the red fox (*Vulpes Fulvus*), somewhat similar to the timber wolf in variety of colour, being found in crosses of red and black markings, and in silver, in which the colour of the hair is dark with silver tips, and in beautiful jet black, the latter being the most valuable, choice specimens procuring as much as \$1,500. The various colour phases may all be found in one litter. Another variety of the fox which is becoming extinct, and is a purely Western animal, is known as the kit fox, or swift (*Vulpes Velox*). The general colour is a pale, buffy yellow, with the underparts nearly white and silver tipped. This beautiful little creature is less than half the size of the red fox, and is found only on the plains of South-Western Saskatchewan and Alberta.

The Fisher (Mustela Pennanti), also known as the pekan, black cat, and pennant marten. This large and valuable fur-bearing animal is found throughout the timber regions of the West. Though called the fisher, it really does not fish, and to that extent is misnamed. It is essentially a forest animal, living on the ground or in the trees. Though not aquatic, it prefers the neighbourhood of swamps, especially in heavy timber. Its general colour runs from greyish brown to black. It resembles a large black cat with bushy tail.

The Wolverine (Gulo Luscus), also known as the glutton, skunk bear, and quick hatch. This animal is a stout bear-like animal, with bushy tail and ears. The colour of its fur is a deep, blackish brown, with a broad band with pale chestnut, beginning on the back of the shoulder and running backward on each side, meeting on the tail. Its range is general throughout the northern parts of the Prairie Provinces.

It is alleged that a wolverine will kill and devour a deer at one meal, and also that it will rob provision caches out of pure wantonness. After eating its way into a cache and devouring the contents (and it must be an exceedingly strong cache that he cannot get into), the wolverine will remove all meat or other provisions left and carry them to hiding-places, finally befouling them to such an extent that no other animal will eat them. The Indians are

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fully convinced that the wolverine is endowed with supernatural powers, and this though its body is only about 30 inches long and 12 high. The animal is exceedingly powerful.

The Skunk (Mephitis).—This well-known and unpopular animal is found everywhere in the West. It is also known as the pole-cat. It is somewhat larger than a good-sized tom cat, has long black fur, with bushy tail, and has two white stripes running down the back, sometimes to the tip of the tail. There is a good demand for the skins, which, after the white stripes have been removed, are made up and called Hudson Bay sable, though the odour, which can never be entirely eliminated, will acquaint any one with the nature of the fur.

The Common Badger.—This animal is found in the untimbered regions of the West. Its colour is silvery, with under parts yellowish white and black and white stripes on the face. The body is thick and heavy, the legs and tail short, and the front feet are provided with long claws well developed for digging burrows. It is hard to get a badger in prime fur, but when they are prime the fur is pretty, being long and silky. The early spring is the time when they are at their best. The best pelts are worth \$3.

The Raccoon or Coon (Procyon Lotor).—This animal is found in the south-western part of Manitoba and in south-eastern Saskatchewan only, and is rare in those sections of the country. The colour is a dull brownish, shading lighter on the under parts. The long hair is black tipped. The skins of these animals are used more than any other for winter overcoats in Canada, making a light, warm, and most serviceable garment.

The Marten (Mustela Americana).—Saskatchewan marten or American sable.—The range of this animal covers the timbered belts of the West. Its fur is of a rich, yellowish brown, shading into black, with a buff or orange irregular spot on the throat. It varies greatly in colour according to the locality in which it is secured, running from light yellow to blackish umber. For the size of the animal, about 25 in. long, its fur is among the most valuable in this country, a dark skin being worth \$25.

The Mink (Lutreola Vison).—Also known as minx and vison. This member of the weasel family is found throughout the

West. When full-grown a mink weighs about 2 lb. The colour runs from a pale to a dark brown, glossier on the back, with a white spot on the throat. Best dark pelts secure up to \$9 each. The mink is one of the most plentiful fur-bearers in this country.

The Common Weasel (Putorius Erminca), commonly called the ermine.—This animal is found throughout the West, and is very numerous, especially in the unsettled districts. There are three species, the long-tailed, which is the size of the small mink; the short-tailed, which is 12 in. in length; and the least weasel, not much larger than a mouse, being only about 4 in. in length, and having no black tip on the tail. The largest of the weasel skins brought \$1.50 each during the past season. The general colour above is dark brown and much lighter below in the summer. In the winter the weasel turns white and is called the ermine. Sometimes there is a yellowish colour on the rump and the tail is black.

Game Birds

Nowhere on the American continent are game birds so plentiful to-day as they are within the boundaries of Western Canada; possibly there is no place in the world where such a large variety of birds is to be found. They include three cranes, two swans, six varieties of geese, five of grouse, and 22 of duck. In addition to these there are snipes, sandpipers, plovers, &c., of many sorts.

The Crane.—Of these birds the white or whooping crane is the largest and most beautiful. It has white plumage with black primaries. The heads of the old birds are largely bare and carmine coloured. These birds are becoming very scarce and are much sought after. They nest on the ground in marshy places, laying but two eggs in a season.

The Sand Hill Crane is only about half the size of the white crane, being about 44 in. in length. The plumage is entirely of a greyish colour, and the bare skin on top of the head is red. It nests in a manner similar to that of the whooping crane. This crane is much more plentiful than the species termed "*Grus Americana*."

Little Brown Crane.—Like the preceding bird, but browner, especially on the wings, and smaller. It breeds in the interior of Northern Canada and migrates, west of the Mississippi, to Mexico in the autumn.

The Swan.—Of the two varieties of swans found here the whistling swan is the more common. In size it is 54 in. in length. A characteristic is the location of the nostril, which is placed at a greater distance from the eye than it is from the end of the bill. The plumage is entirely white, and the bill and legs are black. When flying they make a beautiful picture against the sky, their immense white wings slowly fanning the air and their great necks extended. This bird nests in the ground and lays from three to six eggs. It breeds within the Arctic Circle.

The Trumpeter Swan is larger than the preceding, being 65 in. in length. It is found west of the Mississippi, and nests and breeds as the whistler.

Wild Geese.—These include the Canada goose, which is the best known and most widely distributed of our geese. Their arrival from the south in the spring is a certain indication that winter has gone for good. Their familiar honking is heard long before their wavering, black V-shaped lines appear on the horizon, and as they pass overhead with outstretched necks and flapping wings their peculiar cry becomes a clamour. They breed in the remote northern parts of the Prairie Provinces, returning south in the autumn, when large numbers are shot in the grain fields and on the margins of the lakes.

Two smaller varieties, the Hutchings goose and the cackling goose, have the same plumage as the Canada goose, and their range and habits are the same, but they are not nearly so numerous.

The next most common of the family is the wavy, or snow goose, 33 in. in length. At times in the spring and autumn flocks of these geese are to be seen on the prairies in such numbers that the ground has the appearance of being covered with snow. The "wavy" breeds in the Arctic regions, and, like his relatives, migrates to the far south to spend the winter.

Another variety is the blue goose. Its length is 28 in. It has a head and neck of white, and frequently carries a tinge of rusty colour on the face. The under parts are brownish grey and the back bluish. This handsome goose is only found in the interior and is not abundant. They often travel with the snow goose, but keep to themselves, and on their flight to their breeding grounds

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branch to the eastward, breeding in the regions east of Hudson's Bay, while the snow goose breeds to the west of the Bay.

The American White-fronted Goose, length 28 in., is another variety. Its forehead is white, head and neck grey, under parts mixed with black and white, and back grey. It is more common on the Pacific coast than in the Prairie Provinces, where, however, it is still fairly numerous. They are noisy birds, and are known as laughing geese. They breed in the Arctic regions west of Hudson's Bay.

The Wild Duck.—Wild duck are very numerous in Western Canada. The mallard, of which there are two kinds, the green and black mallard; the American scaup, commonly called the Fall duck, of which there are also two varieties, the gadwall and widgeon; green-winged teal, blue-winged teal, shoveller, pintail, red head, canvas back, barrow golden eye, buffalo head, white-winged scoter, and ruddy duck are all fairly common. That beautiful bird the wood duck has become very scarce. Other varieties which have been secured are the old squaw, the American eider, also the American scoter.

The Grouse Family.—The most plentiful variety of these birds found in Western Canada is the sharp-tailed grouse, commonly known as the Manitoba prairie chicken. These birds have no pinnates or ruffs on the neck, and the head is tufted a little more than the pinnated grouse. The central feathers of the tail are nearly 2 in. longer than the rest, which are also graduated so that the outside ones are much the shortest. The plumage is much paler than that of the pinnated grouse, the feathers on the breast and sides being marked with blackish loops. In the mating season flocks of them indulge in curious antics, dancing, ruffling their feathers, and cooing and crowing. They nest in a hollow in the ground. Their range is west of the Mississippi.

The Prairie Hen, or Pinnated Grouse, is commonly known as the Minnesota prairie chicken, being more plentiful in that State than elsewhere. It has tufts of neck feathers, rounded or square at the ends, long in the males and short in the females. The plumage above is barred with brownish black and white or buffy white, the bars being of about equal width. The female differs from the male. The male birds have a loose sack or naked skin beneath this tuft of feathers on the neck. They in-

flate these to the size of a small orange and then produce a loud, resonant, booming sound during the mating season, when they perform a peculiar dance. They nest on the ground.

The Canada or Spruce Grouse is usually in dense thickets or groves and swamps of evergreen woods. It is one of the least conspicuous of birds, and can often be knocked down with a stick. They feed on berries and needles of spruce. The male is a very handsome bird. It has black and grey plumage, spotted with white on the under parts. The female is a rusty colour, white on the under parts and barred with black above. They usually nest on the ground under low-spreading spruce.

The Ruffed Grouse, also known as partridge and pheasant, is plentiful throughout Western Canada, and is usually found in timbered districts. It is crested with two long black neck ruffs, with a general plumage of brown, black, and white. Regarded as the king of the game birds, the speed with which it flies through the trees makes it difficult to secure a bag. During the mating season the male struts with tail expanded in a half-circle, with head thrown back and ruff spread so as to form a complete collar, and making a loud drumming by striking his wings against his sides.

The Willow Ptarmigan is found throughout the northern parts of the three Prairie Provinces. Sometimes they are very plen-

tiful fairly close to settlements. It is similar to the ptarmigan found in Northern Europe. This is the only bird that moults four times a year. Each of the four plumages differs greatly, and also varies in different individuals. In winter the plumage is white with black tail feathers. In summer it is varied, but is usually reddish brown with black bars, the female being more finely barred than the male.

Prairie chicken shooting makes splendid sport. The bag is limited by law to 20 birds a day, or 100 birds in a season, which extends from October 1 to 20. These birds are found everywhere in the prairie grain fields or in the scrub adjacent, from the eastern boundary of Manitoba to the western boundary of Alberta. Good duck shooting is to be obtained in the fall in any of the large marshes or small lakes throughout the provinces, which are now all easy of access. The season for ducks is from September 1 until winter sets in. Goose shooting is much the better in the spring, when the birds, weary from their long flight from the south, stop to rest and feed on the stubble fields. There is also good shooting in the fall, though at that time the birds do not tarry so long.

In each of the three provinces, non-residents who are desirous of hunting game must first obtain a licence. The cost of licences varies in each province. In Alberta the fee is \$25 for a general

Animal or Bird.	Alberta.	Manitoba.	Saskatchewan.
Bison or buffalo	Entire year	Entire year	Entire year
Male deer, cabri or antelope, elk or wapiti, moose, reindeer or caribou	Dec. 15–Nov. 1 of following year	Dec. 15–Dec. 1 of following year	Dec. 15–Dec. 1 of following year
Females and fawns of above	Entire year	Entire year	Entire year
Mountain sheep or goat	Oct. 15–Sept. 1 of following year		
Pronghorn antelope	Nov. 1–Oct. 1 of following year		Nov. 1–Oct. 1 of following year
Otter	May 1–Nov. 1	April 1–Nov. 1	May 1–Nov. 1
Beaver	Until Dec. 31, 1915	April 1–Nov. 1	Until Dec. 31, 1915
Mink, fisher or pekan, or sable marten	April 1–Nov. 1	April 1–Nov. 1	April 1–Nov. 1
Muskrat	May 1–Nov. 1	May 1–Nov. 1	May 15–Sept. 1
Grouse, prairie chicken, partridge, ptarmigan	Nov. 1–Oct. 1 of following year	Oct. 20–Oct. 1 of following year	Nov. 1–Oct. 1 of following year
Plover, quail, woodcock, snipe, or sandpiper	Jan. 1–Sept. 1	Jan. 1–Aug. 1	Jan. 1–Sept. 1
Ducks and geese	Jan. 1–Aug. 23	Dec. 1–Sept. 1 of following year	Jan. 1–Aug. 1
English pheasant	Entire year	Until Oct. 1, 1920	Entire year
Hungarian pheasant		Until Oct. 1, 1920	
Cranes	Jan. 1–Sept. 1		Jan. 1–Aug. 1
Rails or coots	Jan. 1–Sept. 1		Jan. 1–Sept. 1

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licence and \$5 for a bird licence, or \$10 for a licence to trap fur-bearing animals. A higher charge is made in Manitoba, where a licence covering big game and birds is issued at \$50. For British subjects, however, who are resident and actually domiciled in British territory, the fee is only \$10. In Saskatchewan a big-game licence is issued for \$50 and a game bird licence for \$25, or \$10 for a period not exceeding six consecutive days. For residents the fees in each province are much lower.

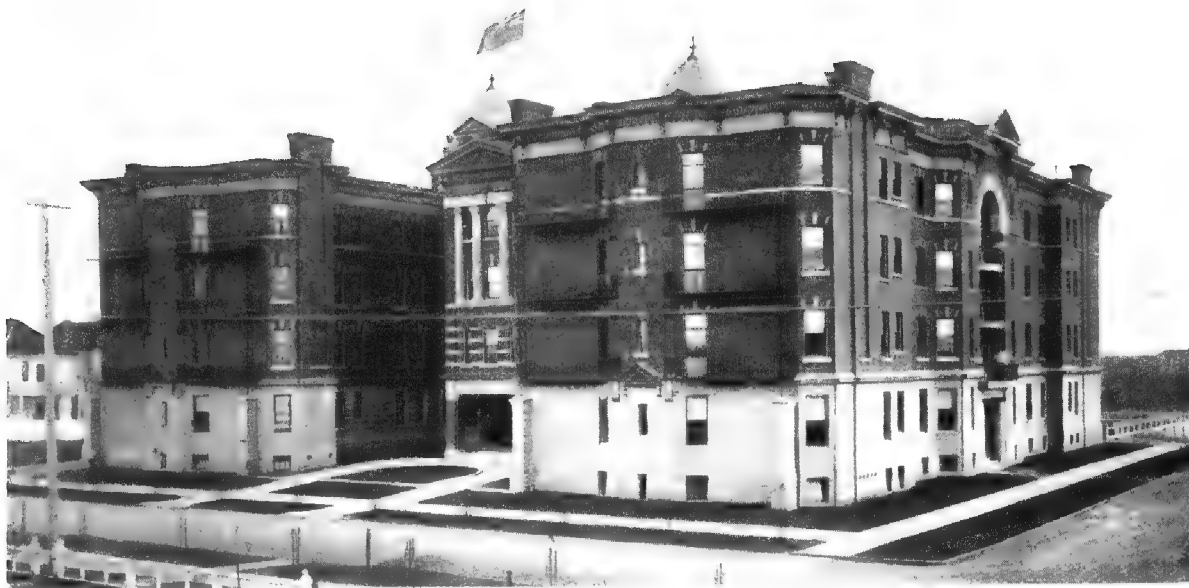
Hunting on Sunday is entirely prohibited

in the Prairie Provinces. The number of different animals and birds that may be killed is limited. In Manitoba, no person may kill more than 100 grouse, prairie chicken, and partridges in a year or season, nor more than 20 in any one day. In Saskatchewan, the same number may be killed in a year or season, but only 10 in any one day. The law in Alberta is similar to that in Saskatchewan. The killing of ducks is limited in Manitoba to 20 in any one day before October 1st, or 50 in any one day during the remainder of the open season. The season for deer is very short,

as will be seen from the table on p. 264, and the number that may be killed is strictly limited. In Saskatchewan, only two of the deer family, whether known as caribou, moose, elk, wapiti, deer, or otherwise, may be killed by any one person. In Manitoba and Alberta only one of each kind may be killed by any one person. Destruction by poison and destruction or capture by snares and other contrivances of all game birds and animals is prohibited. The table on page 264 shows the seasons during which it is forbidden to hunt different species of animals and birds.



A HUNTER'S TROPHIES.



APARTMENT BUILDINGS, EDMONTON.

NORTHERN ALBERTA



Of the three Prairie Provinces, Alberta is indubitably the one which possesses the most interesting configuration and offers the greatest attractions to the settler, to whom congenial surroundings are essential for contentment. For whilst it is true that Alberta possesses its vast plains where no trees gladden the eye or hills break the monotony, in the west of the province conditions are entirely different. The Rocky Mountains contribute both beauty and grandeur to the province, and provide in their foothills a perfect range for cattle, horses, and sheep. In the greater part of the southern half of Alberta, however, there are but few trees. As the fifty-second parallel of latitude is approached, this is a condition which gradually becomes less and less pronounced until the bald prairie merges into a country where broad meadows are interspersed with wooded bluffs and serried with winding rivers and streams. With the peaks of the Rocky Mountains lifting their snow-capped heads on its western flank, and the trees and rivers, meadows and lakes that stretch across Northern and Central Alberta, this part of the province offers scenic attractions that are unknown elsewhere in the Canadian prairies.

The three principal rivers that intersect Northern Alberta are the Peace, Athabasca, and North Saskatchewan Rivers. The two latter have their source in the Rocky Mountains, and the Peace River is formed by the confluence in Northern British Columbia of the Finlay and Parsnip Rivers. All three follow a north-easterly course across the province, the North Saskatchewan eventually flowing into Lake Winnipeg in Manitoba and the two others going to swell the waters of the great Mackenzie River. Each of these three main streams is fed by numerous tributaries, some of which are important though many are insignificant. The chief of the streams contributory to the North Saskatchewan is the Brazeau, which traverses a region rich in mineral wealth. The Athabasca numbers the Pembina and Little Slave Rivers among its tributaries, while the volume of the Peace is swelled by the Little and Big Smoky, the Loon, and Red Rivers, and several other streams.

Throughout the whole of Northern Alberta, with the exception of the Lac St. Anne district, lying between Edmonton and the Rocky Mountains, are numerous lakes which together represent a large area of water. The largest is Lake Athabasca, which covers a surface of 2,850 square miles, but the greater part of this lake is in the neighbouring province of

Saskatchewan. The Lesser Slave Lake, with an area of 480 square miles, and Clare Lake, which covers a surface of 405 square miles, are next in importance. Both the rivers and lakes abound in freshwater fish of all varieties, whitefish, pickerel, ling, sturgeon, pike, and trout being the more common species.

In the extreme west of the province is the large forest reserve, known as Jasper Park, which has been set aside by the Dominion Government. This park contains 5,000 square miles of valley and mountainous country. In his very interesting and extremely comprehensive book on Alberta, Mr. Leo Tuwaite says of Jasper Park: "... Probably no portion of the territory in the whole of the North-West has retained more old historic landmarks and associations than this extensive tract. Here are to be found the ruins of Jasper House and Henry House, old trading posts of the Hudson's Bay and North-West Companies. As the famous Yellowhead Pass forms the entrance to the park, this magnificent reserve—where the valley of the Athabasca River is wider than that of the Bow River further south, where the mountains do not overhang so closely, and where there are prairies of half a mile to a mile in width, stretching for several miles—will be brought into touch with the outside world as soon as the trans-continental line now being built by the

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Grand Trunk Pacific is completed to that point. Then another wonderful mountain sanctuary, far removed from the din and strife of the busy world, will be thrown open to travellers seeking the peace and tranquillity of some new Mecca." In Northern Alberta there is also situated another park, known as Buffalo Park, at Wainwright. Here exists the largest herd of wild buffalo in the world, over 1,000 head. This herd is confined within the 100,000 acres which constitute the park.

In mineral wealth, as in scenic attractions, Alberta is far in front of her sister provinces. Coal is widely distributed throughout the province and there are few districts where it does not exist in large quantities. In Northern Alberta the principal deposits are found at Edmonton, Cardiff (a small town some miles north of Edmonton), and Jasper Park. At the two former places the coal is of the lignite variety, but at Jasper Park it is bituminous. Other deposits occur at Wetaskiwin, St. Albert, Tofield, Pembina, Lacombe, and the Yellowhead Pass. About 1,700 square miles of coal-bearing land have been explored, and geologists estimate the total contents of this area to be in the neighbourhood of 90 billion tons. Natural gas has also been discovered at various points, chief among them being Tofield.

In addition to coal and natural gas, Northern Alberta is rich in other minerals. Judging from the enormous outcrops of the sand on the Athabasca River, in the vicinity of Fort McMurray, it seems evident that large quantities of petroleum exist there. The tar itself is useful for paving, roofing, and other purposes. At Red Deer are found quantities of limestone rock and marl, while brick-making clay exists throughout the entire province. Gypsum is found in the extreme north-east.

The physical characteristics of Northern Alberta render it peculiarly suitable for all branches of diversified farming. The natural grasses of the rich meadow lands form excellent pasturage for horses, cattle, sheep, and hogs; the many streams and lakes supply ample water; and the numerous groves of trees afford shelter from the summer sun and winter winds. Cattle and horses remain out of doors all through the winter months, fending largely for themselves, though most farmers supplement the natural fodder of the district with oat sheaves and cut hay. Grain growing, perhaps, is still the more

popular branch of agriculture, mainly owing to its simple character, but mixed farming is increasing in favour very rapidly. The largest areas under grain crops are in the neighbourhood of Sedgewick, Camrose, Vegreville, Vermilion, and Stettler. Wheat commands more attention than other grains, the variety known as "Alberta red" being among the highest grades grown in any part of the world. Almost as great an acreage, however, is devoted to oats, the Lacombe district being especially successful in producing this grain, as is the country round St. Albert, Wetaskiwin, and Camrose. Measured in bushels, far more oats are grown than wheat, the average return per acre being very much higher. Barley is much in favour in mixed-farming districts, the six-rowed variety being mainly grown in Northern Alberta, where it is used almost entirely for fodder. A certain amount of flax is also grown, and various tame grasses are popular in the dairying and stock districts.

While it is unnecessary to describe in greater detail the position of Northern Alberta as an agricultural country, mention must be made of the Peace River district, which is almost a country in itself. It lies many miles north-west of Edmonton, and is attracting great attention, not merely from the new-comer to Canada, but even from the older settlers in Manitoba, many of whom are leaving their farms to take up homesteads in the valley of the Peace River. Mr. Leo Thwaite may again be quoted. He says: "This remarkable river (the Peace River), with its steep, clean-cut banks, sometimes 1,200 ft. in height, and its great placid breadth of about 3 miles, exercises a strange fascination over all who have seen it, and is expected to take its place one day among the great and useful rivers of the world." W. Fletcher Bretin, M.P.P. in his evidence given during a very interesting investigation held at Ottawa a few years ago, stated that from the foot of the Rockies, for about 800 miles along the Peace, a fertile and most excellent agricultural region exists, the far-famed Peace River Valley extending for at least 75 miles on either side of the Peace River, composed of alternating prairie and light woodland on the south bank and open prairie on the north. The soil on the wooded land is stated to be equally as good as on the open stretches; the bunch grass, everywhere growing luxuriantly in

a wild state, proves beyond doubt that the land is well fitted for successful agricultural development.

The Peace River country is divided into two Dominion Land districts, namely, Peace River and Grande Prairie, and land offices have been opened for these districts at Grouard and at the town of Grande Prairie. The country around Lesser Slave Lake and Dunvegan is rapidly filling up, and round Bear Lake there is stated to be a population already amounting to about 2,000. According to various reports several railway companies intend entering the district in the near future. From Edmonton the Canadian Northern has already constructed a line to Athabasca Landing, which it is expected will be extended through Grouard to Peace River Crossing. The same company is also building a line from Edmonton which will travel to the Peace River district in a more westerly direction, passing first through the Pembina district. At present settlers make their way into the country over the wagon road from Edson on the main line of the Grand Trunk Pacific, or by steamer from Athabasca Landing. Conditions are still primitive, however, and there are only 10 mails a year.

Edmonton.—The city of Edmonton, politically the most important in Alberta, of which province it is the capital, was originally a trading post of the old North-West Company of Montreal, and continued in a similar capacity when that corporation amalgamated with the Hudson's Bay Company. Founded at the very beginning of the nineteenth century, its interests for many years were confined to fur trading and agriculture as practised by a few of the employees of the Hudson's Bay Company, who had taken up land in the immediate vicinity, and until about 1880 there was little reason to believe that the town would ever attain anything but meagre proportions. When the financial arrangements for the Canadian Pacific Railway had been completed, however, the belief arose that the transcontinental railway would pass through Edmonton, and, as a consequence, the town attracted much attention from real estate speculators. Owing to the construction of the railway line through the south of the province the movement did not last, and for a while Edmonton settled down to its old routine. Then came the discovery of gold in the Klondyke, and the town



1. CIVIC BLOCK, FROM MARKET SQUARE, EDMONTON.

2. THE COURT HOUSE, EDMONTON.

3. JASPER AVENUE, EDMONTON.

4. C.P.R. OFFICES, JASPER AVENUE, EDMONTON.

(Photo by Byron May Company.)

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became the outfitting point for the thousands of gold-seekers who took an overland route to the goldfields. This was in 1898, when the Canadian West was on the eve of the development that has attracted the attention of the world. During the ensuing 15 years Edmonton kept pace with the most progressive of Canadian cities.

In 1901 3,167 people had their homes within its confines, and in 1904 it was incorporated as a city. With the increase in population and civic importance came an impetus to its trade and improvements in transportation facilities, and in 1905, when Alberta was first constituted a province, the claims of Edmonton were recognized and the city was chosen as the seat of the Provincial Legislature. From that date onward the progress of the city has been unhampered, and to-day the population amounts to 65,000. This figure includes the inhabitants of Strathcona, formerly a separate town contiguous to the southern border of Edmonton, which was amalgamated with the city at the beginning of 1912.

In its geographical situation Edmonton is one of the most fortunate of Canadian cities. Not only is North-Western Alberta a fertile agricultural country, producing an abundance of grain crops and possessing all the essentials for mixed farming, but it is also a rich mineral district, Edmonton itself being situated directly upon immense coal beds. Much of the country to the south and east is well settled, but to the north-west is the vast area known as the Peace River district, for which Edmonton will be the distributing point for many years to come. No other town in Western Canada has so vast an area of undeveloped land of proved fertility at its door, and it would not be surprising if Edmonton obtained even greater relative importance than has already fallen to its lot.

The coal at Edmonton is for the most part easily mined, many of the mines being on the banks of the North Saskatchewan River. These banks are in some places more than 200 ft. high, and coal seams are exposed at numerous points. There are 30 mines in operation in the immediate vicinity of Edmonton, which supply the local market, while large quantities are shipped to points as far east as Brandon, in Manitoba, a distance of nearly 600 miles. The coal is said to burn well and make steam cheaply and effectively.

The presence of such large coal deposits alone would suffice to assure a certain industrial importance to the city, but in addition Edmonton is within easy reach of undeveloped water power and natural gas. From the Athabasca River near Fort McMurray, about 195 miles away, to which place the construction of a railway has already been authorized, 75,000 horsepower can be obtained, while the North Saskatchewan River would also lend itself to power purposes. Large supplies of natural gas exist at Tofield, 41 miles away.

The city authorities are fully alive to the importance of these assets, and have hastened to offer other inducements to the manufacturer who will take advantage of them. Two large tracts of land have been purchased, and are to be split up to provide industrial sites, which will be offered at a low yearly rental amounting to 6 per cent. of the valuation of the land and the yearly tax. One tract consists of 80 acres lying about $1\frac{1}{2}$ miles north of the centre of the city, and the other contains 140 acres and is situated about 3 miles south of the centre. Both are served with railroads and will shortly be equipped with power, light, water, sewer, telephone, and street car service. Natural gas will later be supplied at a cost not exceeding 15 cents per 1,000 cub. ft., while the single tax system constitutes a further inducement. There is no tax upon improvements in Edmonton nor any business or income tax; taxes are levied upon the land alone, and local improvements are paid for by the owner of property abutting on the streets where the improvements are effected.

Doomed to disappointment when the first transcontinental railway was built, Edmonton has since become the centre of very considerable railway development, and is on the main transcontinental lines of the Grand Trunk Pacific and the Canadian Northern Railways. Upon completion of these lines the city will have direct communication with both the Pacific Coast ports of Vancouver and Prince Rupert. Both lines connect the city with Winnipeg, while a third route to the Manitoban metropolis is that of the Canadian Pacific Railway via Wetaskiwin. The Grand Trunk and Canadian Northern Railways are both building lines into the Peace River district, enterprises of great importance to Edmonton, while connection with Calgary is afforded by a branch of the Canadian Pacific Railway. The Canadian Northern

have constructed a line to Athabasca Landing on the Athabasca River and are also building a branch to Calgary. Edmonton therefore has the advantage of competitive routes to all parts of the Dominion, and with the completion of the construction now projected will be one of the most important railway centres in the West.

In addition to the facilities afforded by the railways, mention should also be made of the North Saskatchewan River, which forms a cheap and effective means of transportation of certain materials. Logs are floated from forest to saw-mill while bricks and building material are conveyed from point to point on rafts. The river is being surveyed by the Dominion Government, and it is planned to make it navigable from Edmonton to Lake Winnipeg. The Canadian Pacific Railway is building a substantial bridge across the river in order that its line, which now terminates in Strathcona, may run into the heart of the city.

Wide streets are a characteristic of most prairie towns, and Edmonton is no exception. The chief thoroughfare is Jasper Avenue, a fine street flanked on both sides with many handsome buildings and running close to the north bank of the river. The most noticeable building is that occupied by the Canadian Pacific Railway, though it will probably be eclipsed by the hotel that is being erected by the Grand Trunk Pacific Railway at the corner of Jasper and MacDougall Avenues. The majority of the 15 chartered banks which have established branches in the town occupy handsome premises, while other prominent buildings include the court house—a commodious edifice of pleasing design—the post office, and various commercial blocks. Of the latter the Tegler Block, at the corner of First Avenue and Elizabeth Street, is perhaps the most important. In addition to these buildings, and far surpassing any of them in point of magnitude and elegance, is the home of the Provincial Government, which stands on the banks of the Saskatchewan River. This was erected at a cost of \$1,250,000, and forms one of the chief attractions to the tourist. On the south side of the river, in Strathcona, the principal thoroughfare is Whyte Avenue, which, while not of the same proportions or appearance as Jasper Avenue, gives a favourable impression to the new-comer from Europe. Strathcona, or South Edmonton, as it is frequently called, is the home of the University of Alberta, a classic

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pile standing in its own extensive grounds, and also of Alberta College, a theological college conducted under the auspices of the Methodist Church. A Presbyterian College is also situated here.

The residential and business districts of Edmonton and South Edmonton are served by an electric tramway, which was laid in 1908 and now includes about 50 cars in its rolling stock. The cars are of the "pay-as-you-enter" type, and are equipped with comfortable upholstered seats, each seat providing space for two people. The tramway employs about 400 people, and its trackage amounts to nearly 40 miles. The system is the property of the municipality, to which it is now returning a not inconsiderable profit.

The tendency throughout Western Canada is toward municipal ownership of public utilities, a policy that is strongly favoured by the City Council of Edmonton. The waterworks power plant, sewerage system, and telephones are all under the control of the city, the water rate being \$8 a year for a 6-room house. Electric light cost 8 cents per kilowatt, while power is charged at 2 to 8 cents per kilowatt. In addition the city has acquired 800 acres of land for park purposes. This area is divided into 17 parks, situated in different parts of the city and varying in size from 1¼ acres to over 200 acres. The policy of the Parks Department is to acquire land that is not suited for residential or industrial purposes—especially ravines and land that slopes toward the river. The river banks are covered with a good growth of poplar, birch, spruce, tamarac, willow, and other trees, which add much to the attractions of the park and the beauty of the city. For games and pastimes an athletic field of 19 acres has been laid out on the south side of the river. Provision has been made for baseball, football, cricket, lawn tennis, and track running, the whole being well turfed and well cared for. A good building has been erected on the grounds and is equipped with dressing-rooms, shower bath, and all the other conveniences that go to the making of an athletic pavilion.

In addition to the University of Alberta, the Alberta College, and the Presbyterian College mentioned above, Edmonton has over 20 public schools, all modern and well-equipped buildings where the instruction follows approved educational lines from the primary to the collegiate standards. There is also a preparatory school for boys

which bears the name of Westward Ho! and a business college where a sound commercial training may be obtained.

There are five hospitals in Edmonton, namely the Royal Alexandra, the Isolation Hospital, the Strathcona, Misericordia, and the General Hospital. These institutions are all free to such patients as are obviously unable to pay for board and attendance, but a reasonable charge is made in other cases. Trained nurses are in charge of each hospital, but the elementary work and ordinary nursing are looked after by probationers.

The Church plays a prominent part in the life of Edmonton, nearly all the different Christian denominations being represented. Many of the churches are of an imposing design, their lofty spires adding much to the dignity of the city.

Hotels and banks are found in every part of the city, the former varying from expensive but luxurious hostelrys conducted on European lines to the less pretentious inns where board and lodging may be obtained at \$1 a day.

That every branch of civic and commercial activity is growing rapidly is shown by the figures published by the Board of Trade in the following comparative statement:

	October, 1911.	October, 1912.	Increase
	\$	\$	Per Cent.
Bank clearings	12,583,265	21,310,359	69
Customs returns	72,250	133,701	85
Building permits	389,650	820,950	98
(Strathcona)	25,375		
Post Office (stamps only) ...	10,280	16,106	43½
(Strathcona)	946		
Street Railway—			
Passengers carried	633,321	1,090,615	72
Revenue	26,032	43,636	67½
Homestead entries	456	388	

In view of such progress and the fact that Edmonton is the gateway to the millions of undeveloped acres that lie to the north-west, the city seems assured of continued prosperity and development for many years to come.

Wetaskiwin.—Wetaskiwin—an Indian word signifying "The Hills of Peace"—is situated 40 miles south of Edmonton, at the junction of the Winnipeg-Edmonton branch of the Canadian Pacific Railway with the Calgary-Edmonton line operated by the same company.

Although the population of Wetaskiwin is only 3,500—a figure which it has never exceeded in the past, whatever the future

may hold—it was incorporated as a city in 1906, and accordingly occupies a position in Alberta superior to that of towns with larger populations and greater commercial importance.

The growth of the city has been very steady, and its advantages have never been advertised with the reckless profusion of superlatives that is all too usual in the case of most Western towns. The first settlers arrived in 1892, and 10 years later Wetaskiwin received official recognition as a town. Like Calgary, it owes much to the Canadian Pacific Railway, which extended its line into the district in 1891, a year before it was necessary to build a station.

The country around Wetaskiwin has the park-like appearance that characterizes the greater part of Northern Alberta, and is well suited to stock raising, grain growing, and dairy production, the soil being a rich black vegetable mould. The most important branch of agriculture in the district is grain growing, the land yielding heavy crops of wheat, barley, and oats. To accommodate all the grain grown near Wetaskiwin has necessitated the erection of six large elevators, with a combined capacity of well over 160,000 bushels, on the strength of which Wetaskiwin has adopted

the pseudonym of "The Elevator City." The district is also well adapted to mixed farming—cattle, horses, hogs, and sheep all thriving on the grassy downs, while many farmers make handsome incomes from poultry farming, dairy farming, and hay growing. Many carloads of eggs are exported annually from the city, and the Government of Alberta has established a creamery there. Large quantities of butter are also shipped to other points, and the dairy industry is growing in favour.

Wetaskiwin is well laid out with broad streets flanked on either side with substantial buildings and stone pavements. The water system includes 8 miles of water



1. THE ATHABASCA RIVER AT SWIFTS.
(Photo supplied by G.T.P. Railway Company, Ltd.)

3. MAIN STREET, VEGREVILLE, LOOKING NORTH.
(Photo by Spencer.)

2. CITY PARK AND C.P.R. STATION, RED DEER, ALBERTA.

4. SOUTH SIDE PARK, EDMONTON.
(Photo by Byron May Company.)

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mains, and 48 hydrants have been installed for purposes of fire protection. The sewerage system has $7\frac{1}{2}$ miles of pipe and $3\frac{1}{2}$ miles of outlet pipe carrying the sewage away from the city and thus avoiding any contamination of the water supply. Among the improvements are a modern septic tank and a filter bed. Electric light and power are both available, a large power house containing a plant which consists of one steam-driven unit, a gas engine, and a generator. Electricity for lighting purposes costs 16 cents per kilowatt, and for power 5 cents per kilowatt. In addition a good flow of natural gas has been struck.

The city has two public schools, both built of brick. The Alexandra School, which cost \$50,000, has 10 classrooms and a large assembly hall; while the King Edward School cost \$23,000 and has four classrooms. A third school is provided in the form of the Sacred Heart Roman Catholic separate school.

For its size Wetaskiwin possesses an unusual number of churches. The Presbyterian, Methodist, Anglican, Baptist, and Roman Catholic denominations are all represented, and there are in addition two German churches, two Swedish, and one Norwegian, as well as institutes belonging to the Salvation Army and the Plymouth Brethren. Other prominent buildings in the city include six hotels and branches of the Canadian Bank of Commerce, the Merchants Bank of Canada, and the Imperial Bank of Canada.

Red Deer.—There are few towns in Alberta that present so picturesque an appearance as Red Deer, which indeed claims to be the prettiest town in Alberta. Situated on the banks of the Red Deer River and in the midst of a district abounding in poplar, spruce, tamarac, and birch, the town has natural advantages that are not possessed by many prairie towns, and its citizens, by taking a pride in their gardens and houses, have effectively added to its many charms.

During the past three or four years Red Deer has attracted much attention from the settler and the investor, partly by reason of its picturesque surroundings and the fertility of its soil and partly by reason of the strategic importance consequent upon its position as a railway centre. The town stands almost exactly midway between Calgary and Edmonton, and is a divisional point on the line of the Canadian Pacific Railway connecting those two

cities. In addition, several other railways are being built into the town from various points. The Canadian Northern Railway is constructing a line between Edmonton and Calgary which will pass through Red Deer, and the Alberta Central, now controlled by the Canadian Pacific Railway, intends building a line east and west of the town, connecting Kamloops with Moose Jaw. Another branch of the Canadian Northern is being constructed from Red Deer to the Brazeau coalfields lying in the Stoney Plains district. Red Deer will, therefore, be the distributing point for a very considerable area.

In addition to the railway facilities fast approaching completion, the town possesses other assets of no inconsiderable value. Foremost, perhaps—with the exception of its agricultural land—are the deposits of lignite coal which underlie the district and are mined in several places. It may now be purchased at the mine mouth at \$1.75 per ton, but this figure will be decreased when the demand increases. There are also immense quantities of bituminous coal in the Brazeau coalfields with which Red Deer will shortly be connected. Another resource of value is the timber. Spruce, tamarac, and birch are cut into lumber at several mills in the district, while poplar is used by the farmers for many purposes. There are also large deposits of clay in the neighbourhood, together with good grey sandstone and marl.

Red Deer enjoys the reputation of being one of the finest districts for dairy farming in the Prairie Provinces and some notable successes have been achieved by local farmers. Several herds of pure-bred cattle are maintained in the district, and this branch of farming has given rise to several subsidiary industries. Of these, cheese-making is important, while six creameries have a large output of butter. Red Deer is also the headquarters for a large milk company, which is engaged in sterilizing and bottling milk and has branches scattered throughout Canada.

Considerable numbers of horses are raised in the district, while sheep farming is now beginning to attract attention, the climatic and other conditions being well suited to this branch of agriculture. As food for the various kinds of stock, barley is largely grown as well as rye. These two grains are grown mainly to supplement the natural grasses of the district,

which are multitudinous in their variety. Wild peavine and vetch are in many places of remarkable growth. Timothy hay is largely grown, but although it has been proved that the district is well adapted to their cultivation, neither clover nor alfalfa has received much attention.

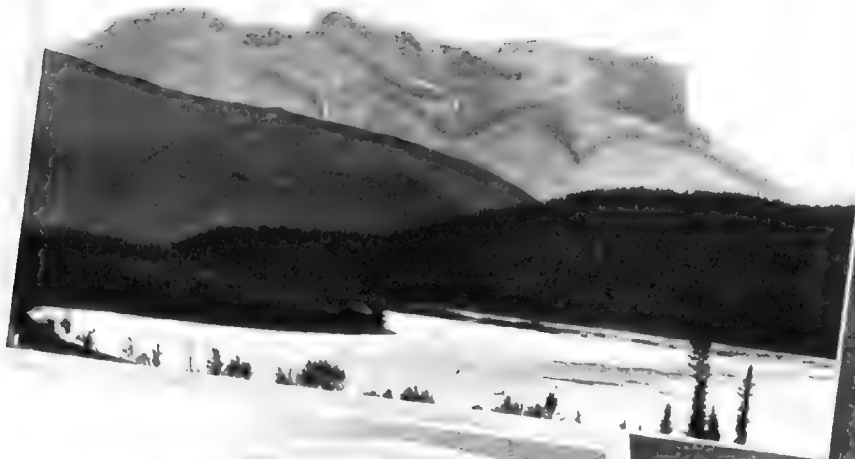
The town of Red Deer itself has a population of 3,500 and is fully equipped with public utilities of every description. Water is obtained from the Red Deer River, the same stream affording an outlet for sewage. Electric light and power are supplied by a well-equipped plant. The town is excellently endowed with educational facilities, possessing four public schools, a high school, a ladies' college, a convent, and a boarding school. The public school buildings are exceptionally large, and with the five handsome churches add much to the dignity and appearance of the town. Much good work is done by the Memorial Hospital, which has an ample staff of trained nurses.

Seventy-eight acres of land have been devoted to parks, of which Red Deer has four. Gaetz Park is the largest, and in its present natural state, unspoiled by the hand of the landscape gardener and situated among the trees on the bank of the river, affords a delightful retreat and playground. The other parks are smaller and of the ornamental garden variety, but being situated in the business and residential districts are very effective.

Red Deer is well equipped with stores and business houses of all kinds, some of the commercial buildings being substantial stone-built structures of elegant appearance. Five banks have established branches in the town, namely, the Merchants Bank, Imperial Bank, Northern Crown Bank, Canadian Bank of Commerce, and the Bank of Montreal, and as usual are housed in handsome premises. There are also four hotels of varying degrees of comfort.

It should be added that while free homesteads may not be obtained within 40 miles of Red Deer, they can be had just outside that limit to the east and west. Improved farms vary in price from \$20 to \$40 an acre.

Camrose.—Situated about 45 miles south-east of Edmonton, Camrose is served by the three leading railways of Western Canada and probably has more lines radiating from it than any town of a similar size west of Winnipeg. The Winnipeg-Edmonton branch of the Canadian Pacific Railway



1. ROCHE MIETTE.

2. PUNCHBOWL FALLS, JASPER PARK.

3. CAMP AT WOLF CREEK, 1910, G.T.P. RAILWAY.

4. ON THE WAY TO THE CHATEAU MIETTE, THE G.T.P. HOTEL IN JASPER PARK.

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gives communication east and west, branches of the Canadian Northern Railway lead to Edmonton, Vegreville, and Stettler, while the Grand Trunk Pacific connects the town with Calgary in the south and Tofield in the north. Other lines are also under construction or projected.

The Camrose district is essentially a mixed-farming district, the natural grasses forming a succulent and nourishing food and the many bluffs affording ample shade for cattle.

Camrose is also the centre of a coal mining industry which is growing rapidly. Five mines are in operation and coal is shipped to many points in the east of the province. It is computed that the daily output of these mines amounts to 600 tons. The householder at Camrose naturally gets the benefit of this, and can purchase coal at \$3.50 per ton delivered.

An abundant supply of good water is afforded by the Camrose waterworks system, which is owned and controlled by the town itself. Water is supplied at a minimum cost of \$1.50 a month. There is a good sewerage system, and a power house supplies electric light at 18 cents per kilowatt hour. The town also owns a hospital.

For a town of 2,000 inhabitants Camrose occupies a high position in respect to educational matters. In addition to a public school, there is a high school where more advanced courses are held and also a normal school from which teachers' certificates may be obtained. The Lutheran religious denomination have also established a college in the town. At present it consists of a small building standing in 30 acres of ground, but plans have been completed for the erection of a much larger structure.

The Royal Bank of Canada, Molsons' Bank, and the Merchants Bank of Canada have all established branches in the town, their buildings being among the more prominent of those devoted to commercial pursuits. There are three hotels, and seven churches owned by the Methodist, Presbyterian, Anglican, Baptist, Lutheran, United Lutheran, and Roman Catholic denominations.

Lacombe.—Lacombe, a typical Western farming town, is situated 79 miles south of Edmonton in the centre of a fertile mixed-farming and grain-growing district.

The town stands at the junction of the Calgary-Edmonton branch of the Canadian

Pacific Railway with the Moose Jaw-Lacombe branch of the same company. It will also be served by the Canadian Northern Railway when that corporation completes its Calgary-Edmonton branch.

The adaptability of the district to various crops is well illustrated by the results obtained on the local experimental farm conducted by the Dominion Government. This was established in 1907, under the superintendence of Mr. G. H. Hutton, and now occupies about 510 acres, situated a mile from the railway station. Experiments have been made with a large number of cereals with a view to finding the varieties best suited to the district. These have been proved to be oats, barley, the earlier kinds of spring wheat, and Kharkof and Alberta red winter wheat. Fairly good results have been obtained with the Canadian field pea, and alfalfa has shown excellent results, yielding $3\frac{1}{2}$ tons to the acre, in two cuttings, and being valued at \$12 per ton. Live stock fed with alfalfa at this valuation has shown a good profit. Red and alsike clover are successfully grown.

The district has also proved suitable for small fruits such as strawberries, raspberries, and red, white, and black currants. The Dominion Government is conducting a dairy farm, and a poultry farm is also being established.

In addition, several herds of pure-bred cattle are kept in the district, while many farmers pay considerable attention to horses and swine. Sheep farming does well, but has not yet been largely taken up.

Lacombe itself is a busy little town containing 1,800 inhabitants, and possesses many substantial buildings devoted to public and commercial purposes. The largest business blocks are those in which are situated the Merchants Bank of Canada, the Union Bank of Canada, and the Royal Bank of Canada: but they are closely followed by the departmental stores and hotels. Of the public buildings the combined public and high school is the most prominent, consisting of a three-story brick edifice, erected at a cost of \$60,000. Lacombe is also the home of the Alberta Industrial Academy, which draws its pupils from all parts of Alberta and Western Canada. The various religious denominations have built pretty churches in the town.

The town owns an electric light plant, the power for which is supplied by water from the Blind Man River. There is also

a steam auxiliary service for special emergencies. Current is supplied at 20 cents per kilowatt hour. The installation of a modern gravity water system will be commenced shortly.

Eight miles west of Lacombe is Gull Lake, a large sheet of water measuring 23 miles in length by 6 miles in width. Surrounded by trees and possessing a smooth beach of white sand, Gull Lake is becoming very popular as a summer resort, as the many cottages erected on its shores testify.

Vegreville.—The town of Vegreville is situated on the main line of the Canadian Northern Railway and is the northern terminus of a branch line running south to Calgary. Edmonton is 73 miles further west.

The surrounding district is essentially adapted to mixed farming and is being rapidly settled by farmers engaged in that branch of agricultural enterprise. Horses, cattle, sheep, and hogs receive considerable attention, and the pure-bred varieties are rapidly replacing the common stock. Poultry farming is not practised to the same extent, although the district offers excellent facilities and a permanent market. This part of Alberta is also well suited for grain growing, wheat and oats both being prominent crops.

Previous to 1905, what now constitutes the site of the town of Vegreville was nothing but bare prairie. With the coming of the Canadian Northern Railway, however, the surrounding country was more rapidly taken up, and a few houses and stores were built adjacent to the railway line. Vegreville was incorporated as a town in 1906, and now has a population of 1,600.

The town will shortly be well equipped with the public utilities essential to the comfort and well being of a modern community. In 1912 a start was made on a waterworks and sewerage system, \$80,000 being appropriated for that purpose, while \$3,000 has been set aside in order to improve the Exhibition grounds and transform a portion of them into a public park. Electric light and power are already available, a substantial plant having been installed by a private company to which a special town franchise has been granted. There is also a fire-engine and apparatus amply sufficient for present purposes.

Vegreville is one of the few small towns in Western Canada to possess a hospital of its own. The Rolland M. Boswell Hospital was erected in 1906, mainly through the

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efforts of the Women's Home Missionary Society of the Presbyterian Church. It consists of a comparatively small building, but has done much excellent work. In 1911, however, a general hospital was erected at a cost of about \$40,000. The latter is in the charge of the Roman Catholic Sisters of Charity.

The town possesses three schools—a public school, a Roman Catholic separate school, and a high school. A new building is in course of construction for the latter, which will contain eight classrooms and an assembly hall.

The principal commercial buildings are those belonging to the Canadian Bank of Commerce and the Merchants Bank of Canada. Other prominent buildings include the town hall, the two hotels, and five churches, occupied by the Roman Catholic, Episcopal, Baptist, Methodist, and Presbyterian denominations.

The Government of Alberta has purchased a site for a court house at Vegreville and will shortly erect the building, while the Dominion Government has also commenced the construction of a building for various purposes. The town is also the headquarters for "C" squadron of the 19th Alberta Dragoons.

Vermilion.—Vermilion, a town with a population of 1,217 people, is a divisional point on the main line of the Canadian Northern Railway, and lies 128 miles to the east of Edmonton. The town was incorporated in 1906 and may be placed amongst the more progressive of the small towns that are springing up throughout Western Canada, since it is already well equipped with public utilities, schools, stores, and the other factors that go to the making of a modern town. It has a good water system, supplemented by large wells in different parts of the town; an electric light plant which was installed at the cost of \$18,000 and supplies light at a cost of 15 cents per kilowatt hour with from 5 to 20 per cent. discount, according to the amount used; a telephone system connected with various rural lines; a fire hall and fire apparatus; a large public school, erected at a cost of \$40,000; and five churches which have been built by the Methodist, Presbyterian, Baptist, Roman Catholic, and Anglican denominations. The Council has also purchased a site on which it is intended to erect a general hospital. The Royal Bank of Canada and the Canadian Bank

of Commerce have opened branches in the town, and three hotels cater to the travelling public. The Northern and Vermilion Development Company has done considerable building of a substantial nature and has erected a magnificent office block with every modern city improvement installed. Vermilion is also the home of a Dominion Lands Office; is the judicial seat of the district; and is the headquarters for a detachment of the Royal North-West Mounted Police. Manufacturing is also being started at Vermilion, and the large deposits of excellent brick-clay which lie adjacent to the town make sure an industry which will be developed largely, as a ready market is always present for the product. Large deposits of sandstone lie under the town, cropping out in different places on the banks of the Vermilion River, and the quality of the stone having been pronounced equal to the famous Calgary sandstone, there is small doubt that the development of these quarries will shortly assume large proportions.

The surrounding country, known as the Vermilion Valley, is well adapted to stock raising, wheat growing, dairying, and mixed farming generally, the soil consisting of a black loam with clay subsoil. Horses, cattle, sheep, and hogs are raised with great success; vegetables grow in abundance, and dairy farming is rapidly becoming popular. Good water can be obtained at a depth of from 15 to 20 ft., while numerous poplar and willow bluffs supply abundant wood for fuel purposes. Coal costs from \$3.50 to \$7 per ton. There are still a few homesteads available in the district south of the Saskatchewan River, for which applications can be made at the Dominion Lands sub-agency at Vermilion. Farms may be purchased at prices ranging from \$8 to \$40 an acre, according to situation. Farms may also be rented at reasonable rentals.

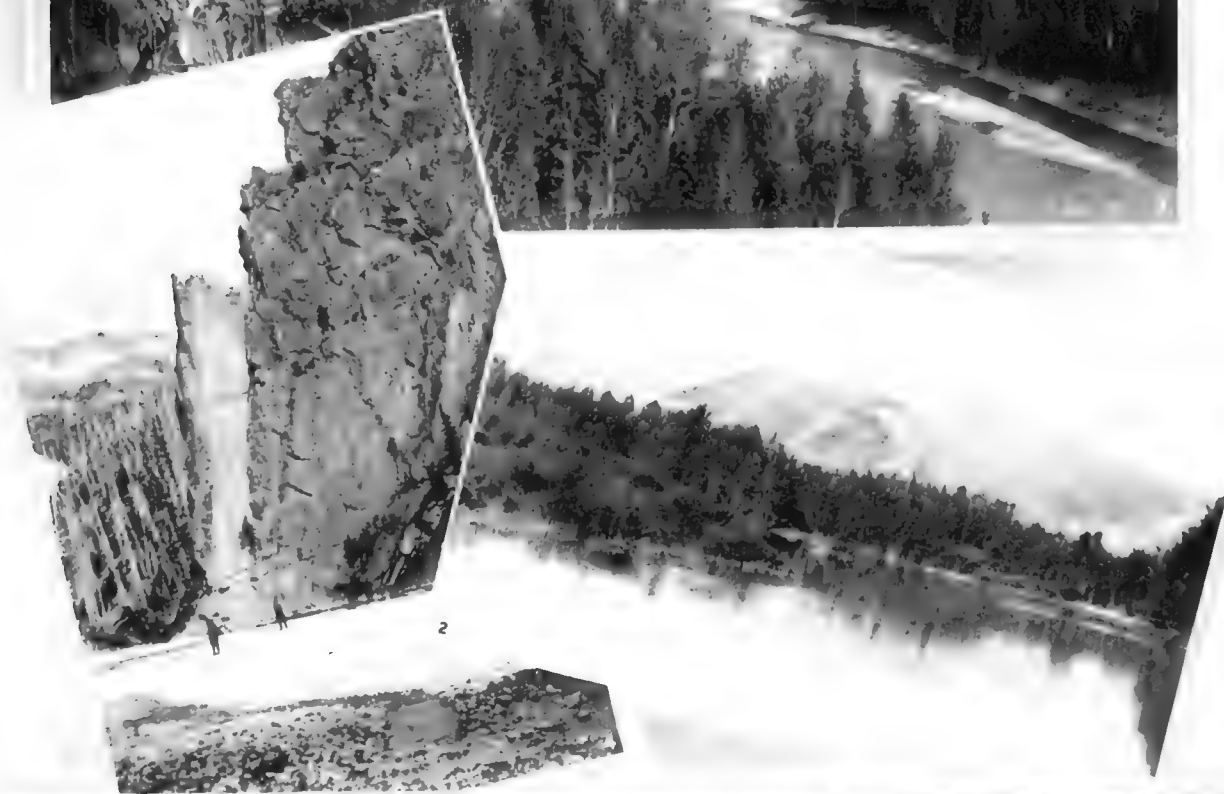
The Vermilion district will shortly be well supplied with railroads. The Canadian Northern Railway has commenced its branch from Bruderheim through the country north and west to Vermilion. The same corporation also has a line planned from Vermilion to Medicine Hat, upon which construction, it is stated, will soon be begun. These lines will tap a rich country, which is at present lying largely uncultivated owing to the lack of transportation facilities. Charters have also been obtained for two other lines to

run out of Vermilion, one to Wetaskiwin and one to Cold Lake, where there is a section of practically virgin country containing clay, sandstone, coal, and other mineral resources, and raw material for all kinds of manufacturing purposes. These lines should make an important centre of the town of Vermilion, which is the logical distributing point for the territory through which they will run. The advantages of the town and district are becoming widely known through the agency of an active, progressive organization composed of the citizens of Vermilion, called the "Ten Thousand Club." This progressive organization aims at building up a town of 10,000 in ten years, by inducing the right kind of settlers to come into the district to engage in diversified farming. The energy with which this club is conducted may be gauged from the fact that under its auspices a booklet has been published for general distribution, in which such matters are dealt with as the nature of the soil and climate, and matters of general interest to the town and the surrounding district.

Stettler.—The town of Stettler was incorporated in 1906 and has a population of 2,000.

Standing at the intersection of the Moose Jaw-Lacombe branch of the Canadian Pacific Railway with the Calgary-Vegreville branch of the Canadian Northern Railway, Stettler is surrounded by a grain-growing district of considerable importance, and one in which large crops are frequently obtained. Mixed farming, although on the increase, is not yet practised to any extent, but a certain amount of stock is raised with a large measure of success.

The town itself has an up-to-date water system and electric light plant, both owned by the municipality, and plans have been projected for the installation of a sewerage system. The residents are especially proud of their public school, and with good reason, as few towns of the same size have such a commodious structure devoted to free education. The school consists of a three-story brick building which cost over \$50,000 and contains eight classrooms, a commodious assembly room, teachers' rooms, board-room, and play rooms. The town also has two small hospitals in which 24 patients can be accommodated. Several churches add



1. LACOMBE.

2. BEAR TRAIL SPRINGS, JASPER PARK.
4. "THE ROCK OF OGRES," FIDDLE CREEK, JASPER PARK.

3. PEMBINA CANYON.

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to the dignity of the town, handsome edifices having been built by the Anglican, Methodist, Presbyterian, Swedish Lutheran, and Roman Catholic denominations. The branches of the Merchants Bank of Canada and the Royal Bank of Canada are other prominent buildings.

Like most Western Canadian towns, Stettler has large Exhibition grounds, in which fairs and athletic meetings are held from time to time. There is also a local branch of the United Farmers' Association of Alberta, which has built a co-operative grain elevator with a capacity of 40,000 bushels.

In addition to the fertility of its land, Stettler is fortunate in having an abundant supply of good coal in close proximity, there being several mines in operation. The retail prices vary from \$3.50 per ton upward, but coal may be had at the mine for \$1.25 a ton.

Tofield.—Tofield is situated 41 miles east of Edmonton, at the junction of the main line of the Grand Trunk Pacific with the Tofield-Calgary branch operated by the same company.

Although the town has existed since 1907, it first came into prominence in June, 1912, when the discovery of natural gas created an interest that spread to distant parts of the Dominion, and in 24 hours quadrupled the value of real estate in the town. The flow of gas was struck at a depth of 1,050 ft., and experts estimate that over 1,000,000 cub. ft. per day are available.

In addition to natural gas, Tofield has large deposits of lignite coal, and five coal-mining companies are conducting operations there, while at Beaver Hill Lake, two miles from the town, are quantities of glass sands, which in conjunction with the gas should prove very valuable. Several varieties of clay have also been discovered in the district, including those suitable for the manufacture of brick, cement, and porcelain.

The Beaver Hills district surrounding Tofield is well suited for mixed farming, which has been successfully carried on for some years. Grains of all kinds give large yields and poultry and stock are both very profitable.

The town will shortly be supplied with public utilities of every description, arrangements having already been made for the installation of waterworks, a sewerage system, and the erection of a power house.

There is a large public school, two hotels, an elevator, and three churches, while the Merchants Bank of Canada has opened a branch in the town. The population is about 800.

Athabasca Landing, with a population of about 1,000, is situated on the Athabasca River, 96 miles north of Edmonton, with which city it is connected by a branch of the Canadian Northern Railway. Natural gas has been found in the vicinity, and the town is also important as being at the head of navigation on the Athabasca River. The principal buildings include two public schools, three banks, and two churches. Boat building is a thriving industry.

Daysland, a small town of about 350 inhabitants, is situated on the Winnipeg-Edmonton branch of the Canadian Pacific Railway, 91 miles east of the latter place. The town includes a public school, a branch of the Merchants Bank of Canada, and an elevator. The latter is unusually large, having a capacity of 145,000 bushels. There are also three churches.

Fort Saskatchewan, with a population of about 800, is situated on the main line of the Canadian Northern Railway, 19 miles east of Edmonton, and stands on the bank of the Saskatchewan River. The more prominent buildings include a large brick-built public school, a court house, the town hall, and a bank. In addition there are two hotels, three elevators, and four churches. The Royal North-West Mounted Police have a station in the town.

Hardisty, a small town containing 525 people, is a divisional point on the Winnipeg-Edmonton branch of the Canadian Pacific Railway, and is situated 125 miles east of Edmonton. Coal and brick-clay deposits have been discovered in the neighbourhood, but little has been done towards developing them. The town includes a school, a hospital, a branch of the Canadian Bank of Commerce, two hotels, and an elevator. Churches have been erected by the Anglicans and Methodists of the town.

Holden, which only possesses a population of 200, is situated on the main line of the Grand Trunk Pacific, 61 miles south-east of Edmonton. The main buildings consist of the public school, a branch of the Royal Bank of Canada, a hotel, two elevators, and three churches, occupied by the Presbyterian, Methodist, and Lutheran denominations.

Innisfail, the population of which has

now reached 1,000, is a very pretty town situated on the Calgary-Edmonton branch of the Canadian Pacific Railway, 115 miles south of the latter place. The surrounding country is well populated and is excellently adapted to every branch of mixed farming. The principal buildings of the town include an excellent public school, the town hall, two hotels, two banks, an elevator, and five churches. There is also an electric light plant.

Leduc, with a population of 526, is situated on the Calgary-Edmonton branch of the Canadian Pacific Railway, 18 miles south of Edmonton. The town possesses a public school, a bank, two hotels, three elevators, and five churches.

Morinville, a town of 500 inhabitants, is situated on the Edmonton-Athabasca Landing branch of the Canadian Northern Railway, 23 miles north of Edmonton. The more prominent buildings are two schools, two hotels, two elevators, and the Roman Catholic and Anglican churches. The Royal Bank of Canada has established a branch in the town. Coal mines, coal oil wells, and asphalt deposits exist in the immediate neighbourhood.

Ponoka, with a population of 625, is situated on the Calgary-Edmonton branch of the Canadian Pacific Railway, 62 miles south of the latter place. The town is equipped with an electric light plant which furnishes light at a cost of 17½ cents per kilowatt hour, and possesses a public school, two hotels, two elevators, and five churches, occupied by the Methodist, Presbyterian, Baptist, Anglican, and Roman Catholic denominations. The Canadian Bank of Commerce has opened a branch establishment in the town.

Provost is a small town with a population of 400, and is situated on the Winnipeg-Edmonton branch of the Canadian Pacific Railway, 190 miles east of Edmonton. The town can boast of two private hospitals and also possesses a public school, a bank, a hotel, three elevators, and five churches. There is also a public park and Exhibition grounds containing a race track.

St. Albert, a town containing about 650 people, is situated on the Edmonton-Athabasca branch of the Canadian Northern Railway, 10 miles north of Edmonton. The town is mainly important as the seat of a Roman Catholic Bishop, and contains two Roman Catholic churches and a convent. There are also a hospital and a bank.

Stoney Plain, with 509 inhabitants, is the

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terminus of a branch line of the Canadian Northern Railway from Edmonton, and lies 21 miles west of that city. It is also on the route of the main line of the Grand Trunk Pacific. The principal buildings which have been erected in the town include a school, a hotel, and two elevators. In addition there are two churches owned by the Methodist and Lutheran denominations, and the Canadian Bank of Commerce has opened a branch there.

Viking, a small town of 400 people, is situated on the main line of the Grand Trunk Pacific, 83 miles from Edmonton. The town possesses a school, a hotel, and five churches, owned by the Presbyterian, Roman Catholic, Baptist, Lutheran, and Methodist denominations. The Government maintains an Emigration Hall here, and there is also a branch of the Merchants Bank of Canada.

Wainwright, with a population of 1,000, is a growing town and a divisional point on the main line of the Grand Trunk Pacific, 130 miles east of Edmonton. The principal buildings include a public school, two hotels, and four churches, occupied by the Anglican, Roman Catholic, Presbyterian, and Methodist denominations. A park is situated in the neighbourhood of the town, and contains a large herd of buffalo.

ALSIP BRICK AND SUPPLY COMPANY, LTD.

The Alsip Brick and Supply Company, Ltd., was established in Edmonton in 1912 with a capital of \$150,000, of which \$100,000 has been paid up. The business engaged in is the manufacture of sand and lime bricks of all colours.

Hitherto, mainly the common clay brick has been used by the builders in Northern Alberta, but the sand and lime bricks are rapidly gaining favour. At a test which took place at the Public Works Department at Ottawa, between the two varieties, the former withstood a pressure up to 67,200 lb., while the latter showed a final resistance to pressure up to 83,920 lb.

The company's plant consists of two Komnick system presses, six retorts, each measuring 56 ft. in length, two boilers of 150 h.p., 90 slacking pans, and 125 steel cars for steaming brick. The motive power is provided by an engine of 90 h.p.

The plant is capable of producing 90,000 bricks daily, and 52 men are employed as well as a large number of teamsters. Six tons of coal are used daily.

The market at present comprises Edmonton and the neighbouring district, where the demand has been sufficient to take the whole of the company's output. It is proposed to extend the field of operations, however, and to this end certain improvements in the plant and working arrangements will shortly be effected.

The general manager is Mr. J. A. Bullman, a native of Cambridge, England, who came to Canada in 1875. He has had many years' practical experience of the brick industry, and from 1905 to 1912 was general manager to the Silicate Brick Company, Ltd., of Ottawa.

THE CAMROSE STEAM LAUNDRY

Established in April, 1912, by Mr. C. van Taack Trakranen, the sole proprietor, the Camrose Steam Laundry was completed in June, 1912. No other steam laundry exists for 20 miles in a westerly direction and for 100 miles eastward.

The laundry, which is situated no more than half a mile from the centre of Camrose, measures 30 by 50 ft., and is fitted with all modern laundry appliances, including two washers, a 15-h.p. boiler and 10-h.p. engine, a tank with a capacity of 1,100 gallons, a mangle 10 ft. in length, fitted with three rollers 8 in. in diameter and operated and heated by steam, two ironing machines for shirts and collars operated by steam and heated by gas, and an extractor for wringing clothes and other articles before they pass into the dryhouse. The latter is a small building measuring 7 by 8 ft., heated by steam and equipped with a revolving fan which is used for distributing the air. Minor details in the equipment of the laundry include a starch cooker, ironing tables, a sorting room, and various other accessories.

Mr. Trakranen is a native of Holland and came to the province of Alberta in 1910.

CEMENT BUILDERS, LTD.

The firm known as Cement Builders, Ltd., has an authorized capital of \$100,000 and was established in 1911 for the purpose of manufacturing cement products of all kinds and more especially the "Kaymur" interlocking roofing tile and the interlocking building brick. In that year the business of the Red Deer Brick Company, Ltd., was acquired, and the company proceeded to erect a modern plant at a cost

of over \$80,000. The Red Deer Brick Company, Ltd., had been working only the top silt clay, but the Cement Builders, Ltd., are using clay from the lower stratum, thus securing a stronger and denser brick.

The clay is hauled from the pits to the plant by a winding cable and is there "dumped" into a granulator, then put through a disintegrator and afterwards through the pugmill. Having thus been worked into a uniform mass it is taken to the brick machine, which is driven by a 300-h.p. engine. It is then fed to the cutting tables and passes to the off bearing belt, where four men are constantly employed taking the bricks off and stacking them on cars ready for the drying kilns. The latter number 17 and have a total capacity of 157,000 bricks.

The bricks are marketed principally at Calgary, Edmonton, and the smaller towns lying between them. Shipments are also made to other parts of Alberta and Saskatchewan. Mr. G. Hugh Marrin, the managing director, has had a life-long experience of the brick industry. He is a native of the United States and has resided in Canada for six years.

EDMONTON TENT AND MATTRESS COMPANY, LTD.

Established as a private firm by Mr. R. Kenneth in 1895, the Edmonton Tent and Mattress Company, Ltd., was incorporated as a limited company in 1906 with a capital of \$75,000, of which \$22,000 has been paid up.

The company is engaged in the manufacture of tents, awnings, mattresses, springbeds, horse covers, flags, camping supplies, &c., and gives employment to 30 men and girls. The present factory consists of three stories and a basement and measures 50 by 75 ft. A new building is being erected, however, which will have four stories and a basement and measure 50 by 150 ft. A proportionate increase will be made in the staff.

Mr. Kenneth, who hails from the county of Kent, England, came to Alberta in 1890, and in 1891 organized the Calgary Tent and Mattress Company.

E. L. FERRIS

In the dual capacity of a real estate and financial agent Mr. E. L. Ferris needs no introduction to British investors in Canadian



E. L. FERRIS, EDMONTON.

1. VIEW FROM BALCONY OF PARLIAMENT HALL.

2. SHEEP RANCH IN ALBERTA FOOTHILLS.
(Photo by Ernest Brown.)



E. L. FERRIS, EDMONTON.

1, OAT CROP NEAR EDMONTON,

2, WHEAT HARVEST NEAR EDMONTON,

(Photos by Ernest Brown.)

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property, among whom he already enjoys an enviable reputation. Since he established his business in 1907, Mr. Ferris has been assiduously cultivating the British capitalist, and during the past few years has invested large sums of money in Edmonton on behalf of clients in the United Kingdom. While always willing to invest funds in whatever direction his client wishes, Mr. Ferris specially recommends revenue-producing properties. Logic supports this policy, as such properties are usually increasing in value as rapidly as the non-productive kind, and in the fast growing cities of the West it is easy to find tenants for offices, houses, and other buildings. The "British Dominion Block," a three-story stone-fronted structure, built at a cost of \$500,000, was erected through the agency of Mr. Ferris, who undertakes all details in connection with the management of this and other buildings. He also deals largely in farm lands and acts as agent for some of the best known fire insurance and loan companies.

Born at Owen Sound, Mr. Ferris graduated at Toronto University, and came to Edmonton in 1904 as deputy-clerk to the Supreme Court. He is a notable shot and a well-known figure on local golf links. He also takes a keen interest in public affairs, especially those relating to the city of Edmonton. He is a Conservative in politics, and a member of the Edmonton and County Clubs.

FARLEY AND TWOMEY

Messrs. Farley and Twomey are conducting a business as real estate agents at Camrose, Alberta, where they were established in 1910. They specialize in farm lands both in the surrounding country and in the vast plains lying between Camrose and Battleford, where they have about 9,000 acres for sale.

The firm also undertakes the investment of clients' money in loans on first mortgage. The security consists of improved farm lands, the maximum amount lent being equal to 50 per cent. of the value and the net return being 8 per cent.

Both Mr. F. L. Farley and Mr. D. Twomey are natives of Eastern Canada, but have been in the West for 21 and 15 years respectively. Mr. Farley was born at St. Thomas, Western Ontario, and Mr. Twomey in Victoria County, Ontario. They have been engaged in the real estate business for

many years, and Mr. Farley was formerly the appraiser to the National Trust Company.

IMPERIAL AGENCIES

Established in 1909, the firm known as Imperial Agencies is engaged in the business of general broking and as real estate and insurance agents, the latter including both fire and life risks.

The most important department of their business is that dealing with investment in land. In both city and farm lands the firm considers that Alberta forms an ideal field for the investor who wishes to ensure a large profit at the least risk. For the same reason it advocates the investment of money in loans on first mortgage. These loans are generally for amounts ranging between \$600 and \$1,500, the sums advanced never exceeding 40 per cent. of a conservative estimate of the value of the property. On city property the rate of interest is 8 per cent., but a higher profit is obtained from loans on farm lands, which vary from 9 to 10 per cent. The firm is also occasionally asked to put the stock of industrial companies on the market, and has in the past floated several large companies.

The partners of the firm consist of the Hon. P. E. Lessard, M.P.P., and Mr. A. Boileau.

R. H. INGLIS & CO.

The firm of R. H. Inglis & Co., which carries on a real estate and insurance business, was established at Lacombe in 1908, the partners being Mr. R. H. Inglis and Mr. Alexander Cameron. The main class of real estate handled consists of farm lands in the rich mixed farming district extending for 40 miles round Lacombe. The firm also handles Dominion Homestead Lands, Mr. Inglis being the sub-agent for the Red Deer district. Mortgage loans are also negotiated on behalf of clients, money being advanced to an amount equal to 30 or 50 per cent. of the property, which invariably consists of improved farm land. The average return is 7 per cent. In addition the firm acts as local agents for the Canadian Cities and Town Properties, Ltd., of Liverpool, England, and for Messrs. Gunston & Sons, also of Liverpool, England.

Mr. Inglis is a native of Ontario, while Mr. Cameron hails from Glasgow, Scotland.

C. A. JULIAN-SHARMAN

The success that has attended the efforts of Mr. C. A. Julian-Sharman in dairy farming well exemplifies the opportunities that Alberta offers to men who are prepared to commence operations on sensible and scientific lines. After inspecting Alberta, Mr. Julian-Sharman in 1902 decided to settle in the Red Deer district, and accordingly acquired a quarter-section—160 acres—3½ miles east of the town. On this land he has built a dairy barn, a house for the men, and a large residence. During 1912 he purchased a further quarter-section. His stock consists almost entirely of Jersey cows, a breed that has proved specially suitable for the district. Of this stock one in particular, distinguished by the title "Rosalind of Old Basing," has achieved distinction throughout the Dominion by reason of her milking record. For the three years 1909, 1910, and 1911, "Rosalind" has yielded 10,870.75 lb., 11,276.50 lb., and 15,700 lb. of milk, while for butter-fat her record has been 727.18 lb., 745.02 lb., and 1,031.89 lb. In view of these figures it speaks volumes for the suitability of the Red Deer district for dairy farming that Rosalind did not have exceptional feeding. She was pastured during the summer months and during the winter was fed on alfalfa, hay, roots, and crushed oats. There is every reason to believe no other cow in the British Empire has achieved such a record.

LAURENTIA MILK COMPANY OF ALBERTA, LTD.

Incorporated in 1912 with a capital of \$500,000, of which \$100,000 has been paid up, the Laurentia Milk Company of Alberta, Ltd., whose headquarters are at Red Deer, is carrying on business as distributors of milk and cream and manufacturers of butter and cheese.

The milk is obtained from local farmers and is distributed among the wholesale houses of Alberta and British Columbia. The special process to which it is submitted entirely eliminates all impurities, and at the same time thoroughly mixes the cream with the milk, improving its edible qualities and flavour. It is afterwards put up in special bottles. The output of cream amounts to 3,000 pints, and of milk to 8,000 quarts weekly.

The butter and cheese factories are

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established at Red Deer, Sylvan Lake, Bowden, and Olds, and others will be established at different points as occasion demands.

Mr. T. B. Millar, the general manager, is a native of Western Ontario and came to Alberta in 1906. He has a life-long experience of the dairy industry, has been inspector of cheese factories in Western Ontario for eight years, and was for six years instructor in the cheesemaking department of the Dairy School at Guelph, Ontario.

THE LUNDY-MCLEOD LAND COMPANY

In its dual role as the seat of the Provincial Government and the second commercial city of Alberta, Edmonton has naturally attracted the attention of the investor in land and property. A number of the real estate firms are of comparatively recent establishment, as in the case of the Lundy-McLeod Land Company, and it is in the success of the younger firms that the progress of Edmonton is clearly reflected. Many older firms have the support of old associations and connections, but those that have sprung into being during the past four or five years are largely dependent upon their own energy and the development of the city. It was through a shrewd estimate of the city's future that Messrs. John E. Lundy and George B. McLeod in 1909 decided to retire from the hardware trade, in which both had been engaged, and to form the Lundy-McLeod Land Company. Their enterprise has been more than justified during the short time they have been established, and they now count among their clients people in all parts of Canada and the United States. Their business is conducted on the usual lines, business and residential properties being handled in the cities, and farm lands in districts near by. Outside subdivisions, it should be noted, are not dealt in. Money is invested in mortgages on the usual terms, the loan being equal to 50 per cent. of the value of the property and the interest approximately 7 or 8 per cent. Among the residential districts which the firm has been largely instrumental in putting on the market are Capitol Hill, Glenora, and the Groat Estate, all of which are close to the centre of Edmonton.

Both partners are natives of Guelph, Ontario, and came to Alberta in 1902.

MCDUGALL AND SECORD, LTD.

This company, which is operating in Edmonton, is engaged solely in the advancing of money on first mortgage securities at a fixed rate of 8 per cent. The company handles its own funds and does not invest money on behalf of other people. The business was originally conducted as a private enterprise by Messrs. John A. McDougall and Richard Secord in 1885, but was incorporated in 1909 with an authorized capital of \$2,500,000, of which \$2,425,000 has been paid up. The reserve fund amounts to \$340,000.

Although the firm does not itself undertake the investment of money on behalf of clients, the principals state that mortgages offer a very large field for investment, and considerably larger sums of money could be invested in this way than they could personally handle.

Both Mr. McDougall and Mr. Secord, who are respectively general manager and president, are natives of Eastern Canada, the former coming to Alberta in 1876 and the latter in 1880.

MICHENER, CARSCALLEN & CO.

Since its establishment in 1902, this business has steadily increased under the guidance of Mr. E. Michener, who is the present head of the company. Real estate, loans, and insurance form the bulk of the business transacted. Several leading British Insurance Companies are capably represented and the amount of business successfully carried out on this side of the water has led these companies to place a high value upon their services.

At the expiration of two years Mr. Michener deemed it advisable to take Mr. Carscallen into partnership, and the directorate remained thus until 1910, when Mr. W. E. Chadsey joined the firm.

The firm specializes in inside revenue-producing properties; mortgages deriving 7 to 8 per cent. per annum are also handled in large numbers. The company will loan money on property to the extent of half the value.

Both senior members of the firm are natives of Ontario, Mr. Michener having come West in 1898, while Mr. Carscallen came to Alberta in 1904 to join the firm. Mr. Michener at present is member for Red Deer in the Provincial Legislature.

THE MILLET FARM COMPANY, LTD.

The Millet Farm Company, Ltd., which was established in 1910 and incorporated in 1912, is engaged in farming in the fertile district of Millet. The farm consists of 825 acres, of which 300 are under cultivation, the principal crops being grains, hay, roots, and vegetables. The stock includes 30 Ayrshires, three thoroughbred Clydes, and about 12 other horses of various classes. A good-sized dwelling house and six out-buildings have been erected, and it is proposed during 1913 to construct a modern dairy.

All produce is marketed at Calgary, where the company intends later to arrange storage for farm products and perishable stuff and to handle other farmers' produce in addition to its own. In this way the consumer will be enabled to obtain supplies direct from the farm and thus effect a considerable economy.

The officers of the company are all members of the same family, and have had considerable experiences of farming and grain industries. Mr. J. Dowler is the president, Mr. H. A. Dowler the managing director, and Mr. J. H. Dowler the secretary-treasurer. A fourth director is Mr. F. A. Dowler.

THE NORTHERN AND VERMILION DEVELOPMENT COMPANY, LTD.

The Northern and Vermilion Development Company was incorporated under the laws of the province of Alberta in the latter part of 1911, with a capital of \$150,000.

The company controls a large portion of the town site of Vermilion and also considerable farm land in the Vermilion district.

The many advantages of the district have been made widely known since the company commenced operations, and numerous farmers have left their high-priced lands in the United States and elsewhere and have settled in this part of the country.

Considerable development has been done in the town by this firm in the way of building, and a large amount of construction work is planned for the future.

Owing to the strategic position of Vermilion in the centre of a rapidly developing farming country, this company is becoming one of the wealthiest land corporations in Central Alberta.

The firm is composed of a number of British capitalists, Sir James Outram is



LUNDY-MCLEOD LAND COMPANY, EDMONTON.

1. VIEW ON Groat Ravine from Athabasca Bridge.
2. Ravine Drive on Capitol Hill.
3. Looking towards Edmonton from Capitol Hill.
4. Looking South-West up Saskatchewan River from Capitol Hill.



THE NORTHERN AND VERMILION DEVELOPMENT COMPANY, LTD., VERMILION.

1. THE "IMPERIAL BLOCK," VERMILION.

2. FIELD OF GRAIN, 12 MILES FROM VERMILION.

3. CATTLE, VERMILION DISTRICT.

4. A VERMILION HOME.

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the president. His Excellency the Count de Topor is on the board of directors. Cedric A. Morris is the secretary.

PIPER BRICK COMPANY

The Piper Brick Company was established in 1892 by Mr. William Piper, who in 1910 sold his interest to Mr. E. R. Hill. The latter gentleman and Mr. F. E. Piper now constitute the firm.

The deposits of clay from which building bricks and drain tiles are manufactured are situated in the neighbourhood of Red Deer, and an excellent plant has been installed on an adjacent site. The machinery is operated by a 50-h.p. Corliss engine. After passing through a disintegrator and pugmill the clay goes through a stock brick machine. An artificial steam dryer is used and the rack and pallet system of open-air drying has been installed. Forty men are employed and the daily output amounts to 40,000 bricks, which are shipped mainly to Calgary.

Mr. F. E. Piper is a native of Middlesex County, Ontario, and has resided in Alberta for 20 years. He has been connected with the brick industry throughout his business life.

ROBERTSON-DAVIDSON, LTD.

Incorporated in March, 1912, with a capital of \$100,000 fully paid up, the firm of Robertson-Davidson, Ltd., of Edmonton, confines itself solely to the development and sale of subdivision properties, purchasing large tracts of land and subdividing them into building lots.

Among the better known subdivision properties of Edmonton which Robertson-Davidson, Ltd., have put on the market are: Beverley Heights, situated $3\frac{1}{2}$ miles from the General Post Office, lying south of Alberta Avenue, and having a frontage of nearly one mile on the Saskatchewan River; and Beacon Heights, being a similar distance from the Post Office, but lying north of Alberta Avenue.

Recently the land adjoining Beacon Heights was subdivided, and is now known as Beacon Heights Annex. The three subdivisions comprise over 500 acres of land, on which over 300 persons now reside.

The firm has carried out and completed a very comprehensive plan of improvements, grading the streets and laying pavements.

Although the firm has only been in existence for a short time in Edmonton, it has already shown that progress which has become so marked a characteristic of the commercial undertakings of the Canadian West, and the first branch office has been opened, its business at Calgary necessitating the establishment of a branch in that city.

Mr. George D. Robertson, the president, is a native of St. John, New Brunswick, and has been connected with the real estate business for ten years. Mr. Adam J. Davidson is also well versed in all matters pertaining to Western real estate, and is in charge of the Calgary office, besides acting as secretary-treasurer to the firm. He is a native of Galt, Ontario. Both gentlemen are interested in a number of well-known business enterprises in the Western provinces.

ROLFE AND KENWOOD

Messrs. Rolfe and Kenwood, of Edmonton, are conducting a business in real estate, loans, and insurance, handling first mortgages on improved land and city properties, large farm areas, and mines. They specialize in what is known as "inside" property, that is, building plots situated within the boundaries of a city, such as business, warehouse, and residential sites.

The firm was established in 1902, the two partners, Mr. Walter J. Rolfe and Mr. John Kenwood, both hailing from England, where they were engaged in farming and as land valuers.

THE ROUNDHILL COLLIERIES, LTD.

This company, which has a capital of \$100,000, of which \$80,000 has been paid up, was incorporated in 1911 for the purpose of exploiting the coal area to the north of Camrose. The company's mine is situated at Roundhill and is crossed by the Canadian Northern Railway Company's line, excellent transportation being thus ensured. Only one shaft is working at present, and the daily output amounts to 200 tons, practically the whole of which is shipped to Saskatoon. From 60 to 70 men are employed.

The company owns 1,280 acres of coal-bearing land, in which it is estimated there are 2,250,000 tons of lignite coal. The president is Mr. D. Twomey, a

partner in the real estate firm of Farley and Twomey.

SANDEMAN-COPE COMPANY, LTD.

The Sandeman-Cope Company, Ltd., an eminent real estate firm of Edmonton, is a development of the business established by Mr. H. F. Sandeman in 1897. It was incorporated as a limited company in 1909, the title being H. F. Sandeman Company, Ltd., the present style being adopted in 1910. The capital of the company, which has been considerably increased from time to time, now stands at \$100,000.

There are few branches of the real estate business in which the company is not interested. Its operations in acreage, subdivisions, and all classes of city property have reached huge proportions, while many thousands of acres of farm lands in Northern Alberta have been purchased through its agency. All classes of investment are handled, loans on first mortgage being especially attractive to the investor. In the case of these loans money is only advanced to one half the value of the property, and in this connection it may be mentioned that the company undertakes valuations and adjustments, being frequently referred to by the city lawyers on matters of valuation. Practically every form of insurance is effected and the company also holds the local agency for South Edmonton for the Grand Trunk Pacific Railway, and issues tickets to all parts of the country. It also represents all the well-known steamship lines.

Mr. H. F. Sandeman now occupies the position of president, and as such looks after the company's business in London, where an office has been opened in Cheapside. A further branch in the Old Country is at Glasgow, which is under the management of Mr. Hugh Macmillan. Mr. E. H. Cope, the general manager and secretary-treasurer, is in charge of the Edmonton office. Both he and Mr. Sandeman are Englishmen, though they have spent over 25 years in the West and are fully conversant with all conditions governing business there.

THE STONEY CREEK COLLIERIES, LTD.

The Stoney Creek Collieries, Ltd., is a close corporation owned by Mr. D. Twomey, of Farley and Twomey, and five other citizens of Camrose. The company oper-



ROBERTSON-DAVIDSON, LTD., EDMONTON.

1. VIEW LOOKING SOUTH-WEST OVER BEACON HEIGHTS, EDMONTON. 2. VIEW LOOKING EAST OVER BEACON HEIGHTS,
3. VIEW ON SASKATCHEWAN RIVER, FROM BEVERLEY HEIGHTS, ADJOINING BEACON HEIGHTS.



SANDEMAN-COPE COMPANY, LTD., EDMONTON.

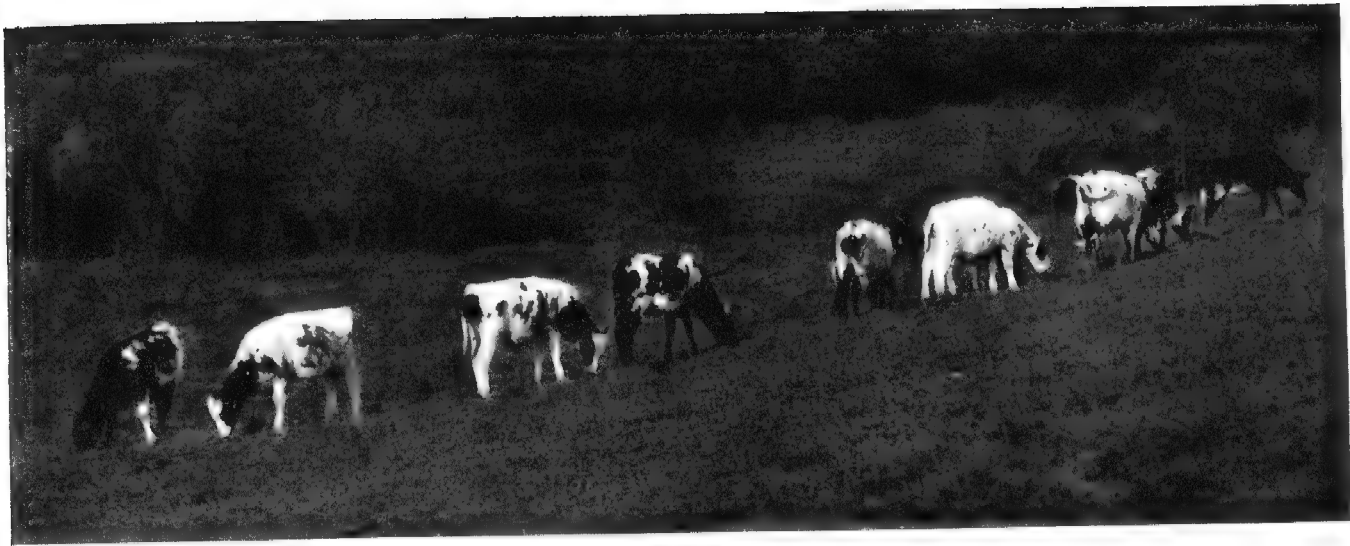
1. JASPER AVENUE, EDMONTON (1890).

2. JASPER AVENUE, EDMONTON (1913).



WATSON & CO., EDMONTON.

1. JASPER PLACE.
2. JASPER LODGE, THE RESIDENCE OF MR. C. SAUNDERS.
3. CITY PARK AND VIEW OF EDMONTON FROM GOVERNMENT HOUSE.



RANGE CATTLE IN ALBERTA.

FORAGE CROPS IN WESTERN CANADA

By JOHN BRACKEN, B.S.A., PROFESSOR OF FIELD HUSBANDRY, UNIVERSITY OF SASKATCHEWAN



WESTERN CANADA is primarily a cereal producing country. The soil, the climate, and the quality of the product combine to make cereal production her first and greatest industry. But the continuous growth of one class of crops cannot be profitably followed for more than one generation, even on the best of soils, without bringing in its path those evidences of decay that are now only too apparent in the older settled areas of the West—the prevalence of weeds, the drifting of soil, and decreasing productivity. Since agriculture began, these and other difficulties have followed extensive and one-crop systems of farming, whether they have been practised with rice in Asia, wheat in Europe, or corn in the Central States; and history is but repeating itself in the agriculture of Western Canada.

The remedy lies in following such methods as will aid in the control of the negative factors in crop production—weeds, insects, fungus, and bacterial diseases—and at the same time provide for the return or addition to the soil of the organic matter and the essential inorganic elements of plant food that may naturally, or as a result of long cropping, be deficient. No country has ever produced cereals continuously on normal soils and with no

return of organic matter or plant food without reaching at some stage in its development a condition of unprofitable agriculture. The introduction of live stock, to which the roughage and a part of the concentrates may be fed and the by-products returned to the land, is imperative sooner or later. Live stock husbandry does not furnish the only alternative, but it would seem that in a thinly populated country such as ours, one that is considerably removed from its principal markets, a system of mixed husbandry—the growing of cereals and the production of live stock—should be at once the safest, most profitable, and certainly the most permanent.

Mixed husbandry necessitates “forage crops”—crops suited for animal food. In its broadest acceptance this term applies to those crops, the stems or leaves or roots or seeds of which may be used for food for animals. “Forage crops” may be classified according to kind, into grasses, legumes, and miscellaneous, such as corn, roots, rape, &c.; according to duration into annuals, biennials, and perennials; or according to use into hay, pasture, soiling, and silage crops. Since roots, crops, and cereals are discussed in other parts of this volume, only those plants the stems and leaves of which may be used for animal food are considered here. These are discussed under the natural grouping according to kind, but with occasional reference to their duration and uses. Of

the grasses, the hardy perennials are best suited to our conditions. These include Western rye grass (*Bromus inermis*), timothy, meadow fescue, Kentucky blue and red top. The millets are heavy yielding annuals and are used to a limited extent. Among the legumes, red, alsike, and white clovers are coming into use, but alfalfa promises much more than any of the clovers. The field pea is the only annual legume suitable for forage. The miscellaneous forage crops mostly used are corn, the annual cereals, winter rye, and rape.

In the production of all crops two sets of conditions must be considered, the soil and the climate. The soil in Western Canada is such that, generally speaking, all forage crops of the North temperate zone may be grown; but the climatic conditions limit the yield. The precipitation—its amount, distribution, and evaporation—and the temperature, both annual and for the summer, are factors that vary considerably in different parts of the West.

The average precipitation ranges from less than 15 in. in South-Western Saskatchewan and South-Eastern Alberta, to 18 in. in some parts of Northern Alberta and Northern Saskatchewan, and to over 20 in. in Eastern and Northern Manitoba. The monthly distribution is particularly favourable over the whole area. Almost half of the total precipitation falls in the “growing months”—May, June and July—the larger part falling

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THE PRAIRIE PROVINCES OF CANADA

in June. The evaporation on the whole is less serious than in more southern areas, because of the frozen condition of the earth's surface for several months of the year, and the snow covering in the northern parts. The "Chinook," a warm wind from the south-west, affects chiefly Southern Alberta and South-Western Saskatchewan and results in the melting of the snow covering in winter, in increased evaporation in summer, and sometimes in serious injury to crops as a result of so-called "drought."

The average temperatures, both annual and for the summer, are highest in Southern Alberta and become gradually lower in a north-easterly direction. In other words, the isotherms run in a north-westerly direction, those representing the highest temperatures touching only Southern Alberta. As the western part of Alberta is reached, the average temperatures, due to the higher altitudes, become lower and the isotherms turn suddenly southward. This peculiar course of the isotherms is due to the combined influence of isolation, the warm winds from the south-west, and the altitudes. The latter are lowest in Manitoba and highest in Alberta. Three prairie steppes may be more or less clearly outlined. The first and lowest, with an altitude of 800 to 1,200 ft., covers Eastern and Northern Manitoba; the second, having an altitude of 1,200 to 2,000 ft., covers South-Western Manitoba, Eastern and Northern Saskatchewan; while the third, which is 2,000 to 3,600 ft. above the sea, covers South-Western Saskatchewan and the greater part of the settled portion of Alberta, although the northern part of Alberta is considerably lower than this, some parts not exceeding in altitude the first prairie steppe. From the foregoing it is apparent that low precipitation and low temperatures constitute two important factors in limiting the production of forage and all other crops in Western Canada.

In growing grasses, clovers, and alfalfa, there are several practices now quite firmly established in the three provinces that differ somewhat from those in vogue in more humid areas. We look upon seeding these with a nurse crop as unwise in most areas having less than 18 or 20 in. of precipitation. A thinly seeded nurse crop has some value, in that it helps to smother weeds which may develop if small seeds of slow maturing forage crops are sown alone, but where moisture is the limiting factor in crop yields, a heavy "nurse crop," instead of

being a protection, actually robs the young plants of the moisture necessary for their growth, and often leaves them in such a condition that a severe winter may cause their death. Fall sowing is not followed, for the reason that the autumn months are usually quite dry and poor germination is probable. In addition, the plants have not time to make sufficient growth to establish themselves thoroughly before winter sets in. As a consequence, there is less probability of their living over this season of the year. Seeding in May or early June has been found most satisfactory. Drilling, rather than broadcasting the seed, is the general rule. The surface soil is often too dry for good germination, and not infrequently high winds are apt to blow away many of the lighter seeds if sown by the "broadcast" method. In a dry climate the moisture conditions necessary for germination are controlled much better by drilling. On the heavy, black soils of the more humid north and east, broadcasting and the use of nurse crops are still commonly practised.

Western rye grass (*Agropyron tenerum*) is a hardy, perennial, drought-resistant native grass. Owing to its short root-stocks and more or less bunchy growth it is known locally as one of the "bunch" grasses. It is a strong, upright grower, having relatively few leaves and a rather stiff, straight stem. The seed is carried in the form of a spike or head. Western rye is one of the best grasses for general use in Western Canada, being particularly suited to the drier areas. It is essentially a hay grass, but is often used for pasture. For the latter purpose the quality of the product is much enhanced by mixing with the rye grass some alsike, red clover, or alfalfa where these can be successfully grown, or Kentucky blue and white clover in other areas. If used for hay, rye grass should be cut as soon as the plants start to bloom, otherwise the forage will be found to be coarse and woody. It almost equals the yield of *Bromus* in the drier parts. In the heavier soils of the more humid regions, timothy approaches it in yield. Seed forms readily on Western rye grass and can be easily saved. The straw from the mature threshed hay is, however, of little value. In sowing, 12 to 16 lb. of seed is used per acre. On account of the loose, bulky character of the seed, it is difficult to sow with the ordinary drill, unless a small amount of some heavier seeds, such as oats,

is used to make it run out evenly. This difficulty causes many to sow it broadcast where otherwise the more desired method would be followed.

Brome grass (*Bromus inermis*) is a hardy, drought-resistant, perennial grass that was brought in from Russia some 12 or 14 years ago. It has a creeping root-stock which sends up new shoots from its joints, thus forming a thick, even growth of grass and a dense mass of roots. It is this character which makes it at once drought resistant and hard to control. It is a strong, upright grower, having many leaves and a long slender stem. The seeds are carried in the form of a loose open panicle. In the drier areas it vies with Western rye for first place, usually yielding more and affording better pasture. In many places it is considered a pest, owing to its persistence and the difficulty experienced in eradicating it. Its use is not recommended in the more moist areas, and only in the drier parts after its objectionable characteristic has been made known. The hay, being more leafy, is more difficult to cure than Western rye grass, and it is looked upon with less favour by horse-men. It is sometimes sown in a mixture with alfalfa, either for hay or pasture. Used in this way it gives large yields, but on account of the tendency of brome to become "sod-bound" after being down two or three years, most men prefer to sow the more expensive alfalfa seed by itself. It is an excellent pasture grass, starting early and giving a good aftermath. Even when "sod-bound" it produces a thick, though short, growth of leaves. The first crop is usually the best, and each succeeding one is usually lighter. It can be "renewed" by ploughing shallow in the rainy season and cultivating lightly through the summer. The succeeding crop is generally a heavy one. The sod is broken up or the grass eradicated by ploughing and "backsetting," or by ploughing in the dry season after the grass has been pastured off or cut for hay. It forms seed freely, often producing 300 to 500 lb. per acre. The straw from the thrashed hay is of fair feeding value. The same difficulties are experienced in seeding brome as Western rye, and the same amount of seed is used per acre.

Timothy (*Phleum pratense*) is a hardy perennial grass, but one that is unsuited for dry areas. It is a "bunch" grass, having a shallow root system. It does best on heavy soils in humid regions. It makes excellent hay for driving horses, but it is not a good

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pasture grass except for use in mixture. It is grown principally in Central and Northern Manitoba, in parts of Northern Saskatchewan and Northern Alberta, and in the foothill country. There are but few places where Western rye does not surpass it in yield. The most favourable reports concerning this grass come from the irrigated and Lacombe districts of Alberta, the heavy soils of the foothills, and the Swan River and Dauphin districts of Manitoba. The ease with which seed can be secured, its relative cheapness, the reputation of the hay for feeding to driving horses, and the adaptability of the crop to heavy soils of moist areas, are reasons for its popularity. It is often sown with red clover and alsike for hay, the fields to be used later for pasture. Even in the drier parts a small amount of timothy seed is often added to the hay or pasture mixture. When sown alone, 10 to 15 lb. of seed are used per acre.

Meadow fescue (*Festuca pratensis*) is used both for hay and pasture. In the drier parts it is inferior to Western rye and Bromus in yield. It compares favourably as a pasture grass with Western rye, but is very much inferior to Bromus for this purpose. It is a hardy perennial, fairly drought resistant, quite deep rooted and very palatable. It produces a fair yield the first year, but succeeding crops are often disappointing. For this reason it is not popular, and when used, it is in mixtures or for pasture. When sown alone, 30 to 40 lb. of seed are required to sow an acre.

Kentucky blue (*Poa pratensis*) is one of our best upland pasture grasses. It has creeping root-stocks, and forms a close, dense mat on the surface of the soil. Ordinarily it does not grow high enough to give a good yield of hay. It is seldom sown alone, but usually with Western rye, timothy, alsike, or white clover. It is slow in developing, but when once established furnishes an earlier pasture than any of our other grasses, and it continues to grow as long as the soil-moisture permits. Being shallow rooted, its growth is seriously checked by prolonged periods of drought. It is eagerly sought by animals, and is of high fattening value. When sown alone, 20 to 30 lb. of seed are used per acre.

Red top (*Agrostis vulgaris*) is essentially a lowland pasture grass. It is suited to light soils in moist climates or low-lying valley lands. It is a hardy perennial, having a creeping root. It, too, forms a close sod,

which stands trampling well. The growth, while taller than Kentucky blue, is generally short and thick. The pasture yields more than Kentucky blue, and is liked by all kinds of stock, but it is not as palatable or as nutritious as the blue grass. Alsike and white clover are often used with it for pastures. Western rye and timothy are also mixed with it to give bulk to the pasture or for hay. When sown alone, about 20 lb. of seed is used per acre.

The native grasses are largely used for hay and pasture in all new districts. "Prairie wool" and "sleugh hay" constitute the greater part of the forage used in the earlier history of prairie farms. When cut before it is ripe, this native vegetation makes very nutritious hay; when allowed to become dead ripe before harvesting, its value is lessened but still good; but after sleugh hay has been frozen the quality is very poor. The native hay usually includes, in addition to numerous grasses, a number of native legumes, which increase the protein content of the whole, thus greatly improving it in quality.

The millets are annual grasses that in Western Canada are used only for forage purposes. They are quick growers, large yielders, drought resistant, but very sensitive to low temperatures. They grow slowly in the cool soil of early spring, and are easily killed by autumn frosts. They are not popular, for the reason that they are annuals and "warm climate" crops. They are used as "catch crops" or crops to substitute for other forage that promises partial failure. There are three types commonly grown: the foxtail millets, the barnyard millets, and the broom corn or proso millets. The first is earlier and therefore better suited to Western conditions. The leading varieties of the foxtail millets are Hungarian, Siberian, Kursk, and common. The seed is usually sown with a grain drill at from 25 to 35 lb. per acre, and the crop either pastured off or cured as hay. Being very leafy, curing is sometimes difficult. The hay is quite suitable for all classes of stock, but is fed mostly to cattle. If left too long before cutting, the forage is said to have an undesirable action on the kidneys of horses. The crop is of greatest value as a "catch crop," in that it is rich in feeding value, nutritious, quick growing, and high yielding.

The clovers (trifolium) as yet are not

largely used. Except in parts of Manitoba and in scattered localities in the other provinces, few serious attempts have been made to grow them, and as a result the soils are not "inoculated," and hardy strains have yet to be found. Red clover is grown in Manitoba and is usually quite successful. Early attempts at growing it often resulted in failure, due, no doubt, in part to the absence of the necessary bacteria to aid the plants in securing nitrogen from the air. Red clover is the most popular of the clovers. It is a biennial, only hardy enough for more or less protected areas. When hardy strains are produced (plant breeders are now working for them), there is little doubt but that the more protected and more humid areas will successfully produce this important legume. Crops have been grown at nearly all the experimental farms, and with very great success at Brandon. Alsike is a perennial, considerably hardier than red clover and more suited to moist, low-lying soils. It is a good hay plant and is more often used for pasture than red clover. It does better in new soils than the more popular red clover. White clover is not a hay plant, but is a short, hardy, creeping pasture plant of considerable value. It likes low, moist areas also. It is largely used for mixing with Kentucky blue and red top for permanent pastures. When sown by themselves, 10 to 12 lb. of red clover, 8 to 10 lb. of alsike, and 6 to 8 lb. of white clover are used per acre.

Alfalfa (*Medicago sativa*) is better suited to the climatic and soil conditions of Western Canada than any of the other legumes. Recent experimental work has demonstrated that it can be grown on almost any soil and in practically every part of the present settled portion of the West. It is a drought-resistant perennial, and certain varieties are very hardy. It gives very large yields when properly cared for, and the quality of the forage is unsurpassed. It makes an excellent soiling crop, has been ensiled with fair success, and furnishes good pasture for all classes of stock, but its greatest value is in its use as dry-cured fodder or hay. The varieties that have been found to be hardest are Grimms, Sand Lucerne, and Turkestan, although some northern-grown strains of common alfalfa have stood our winters quite well. Land intended for alfalfa should be free from all creeping-rooted grasses, since these are among the

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crops' worst enemies. A stand of alfalfa can best be secured by sowing it after a hoed crop or on summer-fallow, but fall or spring ploughing, well worked down, is quite satisfactory on all except very light soils and in very dry areas. Under these conditions it is desirable that alfalfa be seeded after a fallow or hoed crop. The seed is sown in May or early June, at from 10 lb. to 18 lb. per acre, without a nurse crop. Inoculation is generally necessary and always advisable. A crop is seldom taken the first year, but the plants are usually clipped back in order to destroy the weed growth. No cultivation should be given after seeding the first year. It is desirable that a growth of 10 in. to 15 in. be left to hold the snow and protect the young plants during their first winter. In the following and succeeding springs surface cultivation with disc and harrows is commonly practised, the purpose being to form a mulch to conserve moisture and to aid in keeping down grasses and weeds.

The first crop is cut when about 5 to 10 per cent. of the plants are in blossom, or immediately after the new sprouts appear at the base of the plant. Two crops are often taken in one year, and occasionally three have been secured. In the drier areas it is probable that one crop is all that should be taken, since it is advisable to leave a considerable growth for winter protection, and this cannot be expected after a second crop. In the more humid sections of the West, two crops are generally taken and three on the irrigated lands.

The field pea is the only annual legume that is used to any extent. In addition to its growth for seed, it is coming to be very popular as a crop to be grown with oats, either for soiling dairy cattle or for hay. For the former purpose, one to two bushels of oats and one of peas is sown per acre, but for hay a larger proportion of oats is used. This mixture gives a very heavy yield of hay of good quality. Where, for any reason, perennial legumes or grasses are not used, peas and oats may easily be grown and will serve to take their place.

Corn (*Zea mays*) is very little grown for forage and even less for grain in Western Canada, although for the former purpose it is one of the most important crops we have. Under good management it gives enormous yields, is an excellent

soiling crop, is our best silage crop, and even its dry-cured fodder makes good stock food. The varieties used are chiefly of the flint type, although "North-Western Dent" is a favourite. Of the flints, "Compton's Early," "Longfellow," "Angel of Midnight," "Leaming," and "North Dakota White" are among the heaviest yielders. "Free Press," "Gehu," and "Quebec Eight-Rowed" are earlier, but yield much less forage.

Corn in Western Canada is usually planted about the last week in May. Since the young plants are very tender and suffer severely from the lightest frost, the aim is to sow it as soon as possible after danger from spring frosts is past. Rich, warm, loamy soils are chosen for corn, and usually an application of well-rotted manure is given. When planted for forage the corn is usually sown in drills, although hill planting is not uncommon. The former method gives more forage, but it is later. When sown in drills about 36 in. to 42 in. apart, 20 lb. to 30 lb. of seed is necessary. If planted in hills, 15 lb. to 20 lb. is sufficient. Until the plants are 6 in. to 8 in. high, surface cultivation with light drag-harrows is practised to keep down weeds and maintain a soil mulch. Intertillage, either with the one- or two-horse cultivator, is, of course, necessary thereafter until the plants are high enough to thoroughly shade the ground. Such tillage serves to maintain a good mulch after rains and during the warm, dry season. If the crop is to be used for silage, it is usually harvested with a corn harvester and drawn as soon as possible to the ensilage cutter; if for dry fodder, it is usually stacked in the field or near the buildings; when used for soiling, it is, of course, cut green and fed in that condition. In any case, it is desirable that the crop be harvested before it is frosted. After cutting, very green corn should be allowed to wilt before being hauled to the silo, since an excess of water in the silage is not only likely to be lost by leaking away, but, in addition, it tends to make the silage sour.

Rape (*Brassica napus*) is a biennial crop that for forage purposes is used as an annual. It is a vigorous grower and gives a large yield of green forage, which is used altogether for soiling or pasture. The leaves contain so much moisture that the forage cannot be satisfactorily cured. It is used principally as late

summer and early fall pasture for cattle, sheep, and hogs. Rape will stand quite heavy frost without injury to the forage, often giving good pasture until late in the fall. For soiling purposes or hog pasture it is usually sown in drills 2 to 3 ft. apart on well prepared land. When it is to be used for cattle pasture it may be sown in the same way, or it may be drilled in on early ploughed summer-fallow. Used in the latter way it may be cultivated, thus aiding in keeping weeds in check. At the same time, the stock pasturing on the field will return considerable fertility to the soil and pack it as well. When sown in drills, intertillage is necessary. There is some danger to sheep and cattle from bloat, unless they are gradually accustomed to the rape pasture. This danger is greatest when there is dew on the plants and after it is frozen. Cattle cabbage and kohlrabi are members of the same family and are grown in the same way. The heads of the former and the roots of the latter may be preserved. Otherwise their uses are similar. Three to five pounds of rape seed is sufficient to sow an acre when planted in drills.

Winter rye is but little used as a forage crop, although it furnishes earlier pasture and soilage than any other crop. It is used to a small extent for hay. Its greatest value as forage is in its earliness. Many other crops will yield more forage of a better quality, but none are ready for use as early in the spring. When used for hay, rye must be cut early, or the stems become stiff and unpalatable. Western strains of Winter rye are perfectly hardy if given a reasonable chance. When sown early enough, rye can be pastured lightly in the fall as well as in the spring. It should be sown as soon as possible after the second week in August at the rate of four or five pecks per acre.

Oats are used for hay to a greater extent than any of the other cereals. On many wheat farms where native hay is not available, oat hay or oat sheaves and straw furnish the only roughage the working horses receive. The oats are usually cut green or in the early dough stage. This hay is found to be quite satisfactory, although when exclusively fed, and particularly if it is quite mature, intestinal troubles are sometimes experienced with horses. For cattle and sheep oat hay is an excellent forage.



DAIRY CATTLE.

DAIRY FARMING

BY W. A. WILSON, DAIRY COMMISSIONER, SASKATCHEWAN



SPEAKING generally, dairy farming is a product of necessity. In some instances it has been taken up from a desire for that particular phase of farm operations, in others it has been chosen because of the profits that it produces and the certainty of the income that it provides, but the larger proportion of dairymen choose it when all other methods of obtaining a profitable return from the soil have been tried without success. This is the best recommendation that can be given for dairying. It affords the surest means of realizing a profit on an investment in farm lands. Nevertheless, as we have said, it is most generally selected only as a means to prevent failure. Objections to dairy farming may be thus set out:

1. Many delegate it to the realms of drudgery.
2. The entire work must receive close and constant supervision.
3. The product is easily perishable and must receive the best attention.
4. It holds first place in agricultural pursuits from the standpoint of the necessity of a scientific agricultural education.

As regards the first objection we may remark that to many any kind of work is more or less a drudgery, while to others hard work is made pleasant by a willingness to adopt conveniences that make for progress.

A man who is possessed by a desire for the best will frequently convert hard work into pleasure merely by satisfying his inclinations. Dairying as many farmers conduct it is drudgery, but that merely indicates the standard of the individual, not of the industry.

The second is only an objection to those who are not willing to admit that "labour is the lot of man," especially while laying the foundation of a greater industry. Men engaged in commercial work pass through this experience, and no exception can be made in the case of a dairy farmer. The objection is only obviated when expenditure on capital account and the necessity of securing a return on the investment are alike ignored.

The third does not bar the road to success and progress where practical and scientific knowledge are combined. By the industrious man, willing to learn, all difficulties likely to be encountered in dairy farming can be readily overcome.

Concerning the fourth. To an energetic, ambitious person the study and research necessary to success should prove an incentive rather than otherwise. There is always room at the top for the best men, and in dairy farming opportunities, though plentiful, are only profitable where a persistent effort for the best, and only the best, is in evidence.

Early History of Western Dairying

It is only within the last decade that Western Canada has been recognized as a country with a great future. Previous to

this time there existed a period with conditions that approximated to stagnation. It was chiefly by the determination evinced by the early settlers, and their firm conviction that the prairie West had a great future, that the country was brought to its own so early in its history. Along with other lines of farm and commercial work dairying had its many difficulties. It was not uncommon to see farmers offering their butter to the local merchant at a price of from 7 to 10 cents per pound, and in kind. A cash price for this commodity was not possible, chiefly owing to the fact that there was no outside market where the dealer could unload with profit. His acceptance of the goods was largely a matter of accommodation to those friends whose trade he solicited. This condition existed throughout the three Western provinces, and whilst it existed the industry was very much in disfavour, and rightly so. That time, however, has passed. None the less, there appeared at the moment to be no immediate remedy, since the sparsely settled communities presented an almost insurmountable barrier to economic enterprise, and since the exportation of dairy butter was practically impossible owing both to the lack of uniformity and quality in the produce and the excessive cost of transporting freight over a long rail haul to a seaport town.

First Government Aid to Dairying

The Dominion Government in 1897, realizing the condition of the industry among the Western farmers, offered liberal

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assistance for the promotion of farmers' co-operative creameries, with a view to finding a better market for their produce and to assist them in tiding over a period of hard times. The undertaking was worked successfully for several years, and with the desired effect. Later, with the changed conditions and the formation of the provinces of Saskatchewan and Alberta, the Dominion Government withdrew, leaving the Governments of the respective Western

While the Canadian West is probably better known as suitable for growing wheat, there are large territories in each province not only suitable for dairying but quite unsuitable for exclusive wheat farming. Again, in the older settled portions the fertility of the soil has been taxed so heavily by straight wheat farming that certain districts may now be assigned to that portion of the West generally designated as being unsuitable for exclusive wheat

condition exists, but in a slightly more limited territory adjacent to the larger cities. Outside of this the northern portion of Saskatchewan and Central Alberta are naturally adapted to stock farming and particularly to dairying. Splendid land can be obtained at a price of anything from 10 to 30 dollars per acre according to the location and on easy terms. The luxuriant growth of natural grass, the fertile soil admirably suited for



1. A DAIRY FARM.

2. "ROSALIND OF OLD BASING," CHAMPION DAIRY COW OF THE BRITISH EMPIRE.

provinces to adopt what course they saw fit to encourage this branch of farm work. Each province has now a well-organized dairy branch in connection with the local government, and each endeavours to meet the local problems arising from circumstances which constantly change as a result of the rapid settlement of the country.

These efforts are having the desired effect in stimulating dairy farming and building permanently for the future, as well as in securing better markets and improving the quality of the product. As a result the industry is showing marked progress.

growing, and the preservation of which depends upon diversified farming. Farmers who are in close proximity to the large cities have found it to their advantage to invest their earnings in dairy stock because of the remunerative prices to be obtained for milk, cream, and butter. In fact, the city of Winnipeg calls for such a heavy quota of dairy products that manufacturers and dairymen are reaching out all over the province for their supply. From this cause the whole province affords good prospects for the dairy farmer.

In Saskatchewan and Alberta a similar

growing forage and root crops and cultivated grasses, remove all doubt concerning an abundance of feed.

Markets

Because of the tremendous immigration to Western Canada, the rapid increase in population in the larger centres and the greater proportion of farmers giving attention to growing wheat, there has been created a market for the best dairy products in which dairymen from all over the Dominion are seeking to obtain a foothold. This condition is likely to continue. Evidence of this fact may

DAIRY FARMING

be found in Canada's butter exports for the years 1911 and 1912. In 1911 about 350,000 packages of butter were exported. The exports in 1912 were reduced to 70 boxes, and in both years butter was imported from Australia and New Zealand. Statistical returns reveal the fact that in only four months of the year do the three Western provinces manufacture sufficient butter for the home market, while at the Pacific coast importations continue throughout the entire year. The probability of over-producing is very remote, especially

in the matter of the best quality. Wholesale milk, cream and butter will always be in demand. This class of goods cannot be produced in a quantity that exceeds the demands of the market. The opportunities thus afforded dairymen who will supply the best commodity, in either large or small quantities as circumstances dictate, cannot elsewhere be surpassed if they can be equalled.

So great has been the call for dairy stock that the importation of dairy cattle

through individuals on their own behalf, through dealers, and through the Cattle Breeders' Associations working in conjunction with the respective departments of agriculture, has become quite common during the past two or three years. Between 60 and 70 carloads of pure-bred and grade dairy cattle were brought into the Canadian West through these channels in 1912, yet the market situation for dairy produce is stronger at the present time than it has been at any period in the history of Western Canada.



A PAYING INDUSTRY.



SHEEP AT WAINWRIGHT, ALBERTA.

LIVE STOCK AND POULTRY

By W. F. STEVENS, LIVE STOCK COMMISSIONER, ALBERTA



IN dealing with this subject it is advisable to do so under the headings of conditions surrounding and methods pursued by (1) the Rancher, (2) the small Stock Grower, and (3) the Farmer.

In the broadest sense of the term ranching, or the range method of stock growing, is that system which requires domestic animals to secure a livelihood on the open prairie—in Western parlance “to rustle”—throughout the year. Under this system feed is seldom provided for any stock other than work horses, weanlings, and aged female animals.

This system is and always has been confined to Southern Alberta and South-Western Saskatchewan, or that portion of those provinces which is strongly affected by the “Chinook” winds. The “Chinook” has its origin on the Pacific Ocean; it finds its way eastward through the mountain passes and spreads itself over the open prairie. It is always warm, and causes the snow to disappear with remarkable rapidity. Although strong south-westerly winds are frequent in this section throughout the year, the term “Chinook” is not applied to them excepting during the late autumn and winter months, and even then only to those winds whose warmth and balminess attest their origin from the Pacific Ocean.

A typical ranch consists of a large tract of pasture land varying in extent from 10 to 200 or even 300 square miles, generally leased from the Dominion Government,

together with the following: 1. “The Ranch House,” or residence of the owner or manager. 2. “The Cook House,” in which is comprised the kitchen and dining-room for the employees, and in most cases the sleeping quarters of the cook. 3. “The Bunk House,” or sleeping quarters of the men employed on the ranch, such as riders, teamsters, and labourers. 4. Stables for work and saddle horses and sometimes for winter housing of stallions and bulls. 5. “Corrals,” or enclosures for the proper handling of the stock.

Before being permitted to run at large horses and cattle are “branded.” The “brand” is a scar put in the skin of the animal, usually by burning with a hot iron. Every rancher has his own “brand,” which is *prima facie* evidence of ownership of the animal on which it is found. When a branded animal is sold by one rancher to another it is “vented.” The “vent” consists of a straight line, called a “bar,” placed immediately over or under the “brand,” or it may be of the same design as the “brand,” but placed on a different portion of the body. The nature or design of the “brand” and of the “vent,” also whether they are to be used on cattle or horses and the portion of the body on which they are to be placed, are determined and carefully recorded by an official of the Government known as the Recorder of Brands.

During the latter half of May and the whole of June stallions are permitted to run with the mares, and two months later bulls are turned out to run with the cows.

The fall is the season of the principal “round-up,” or gathering together of the

stock. Sometimes it consists of a single operation and sometimes of a series. On a cattle ranch there may be a “beef round-up,” or a gathering together of cattle intended for market, as early as in August. In September there may be a “round-up” of calves, either for sale or for the purpose of weaning in order to permit the cows to put themselves in fit condition to be sent to market later in the year, but ordinarily all the cows are “rounded-up” in October. The calf following each cow is presumed to be her calf, and the owner of the cow has a right to claim it. The entire herd is driven to the ranch headquarters; the calves are placed in an enclosure called a “weaning corral” and fed, usually on hay, while the cows are driven back to the prairie to recuperate and acquire sufficient strength to withstand the hardships of approaching winter.

In the following spring the calves are all “branded” and the males are castrated; they are then turned out to take care of themselves until wanted for breeding or for the purpose of sale.

There has been a rapid decline in the ranching industry of the Prairie Provinces during the past ten years, owing to the occupancy by farmers of the lands formerly utilized by ranchers as pastures.

There is reason to believe that there will be a slight revival in the industry in the near future, but each rancher will probably operate on a somewhat smaller scale than formerly. It has been apparent to observing men that not all of the old ranching districts of Alberta and Saskatchewan are suitable for grain growing, and in response to the appeal of the ranchers



1. HORSE RAISING IN THE MIDDLE WEST. 2. STOCK FARMING. 3. HOW THEY LEAD CATTLE OUT WEST.
4. FAT CATTLE AT THE ALBERTA EXPERIMENTAL FARM.

THE PRAIRIE PROVINCES OF CANADA

the Dominion Government appointed in 1912 a Commission, which was instructed to inquire into conditions surrounding the ranching industry and to designate those areas in Southern Alberta and South-Western Saskatchewan in which, with our present knowledge of agricultural science, there is little likelihood that successful crop growing can be carried on.

Although the Commission has not yet completed its investigations, there is reason to believe that its labours will result in the setting aside of numerous areas for grazing purposes, and that these will be leased to stockmen for a term of years.

The breeds of cattle most favoured by the ranchers are Shorthorns, Herefords, and crosses of these two breeds. There are a few herds in which Galloway and Angus blood is found to some extent; also some in which there is still a trace of the blood of the Highland cattle. The last-named breeds are vastly in the minority.

The Clydesdale is the favourite draught horse among the ranchers of the Prairie Provinces, although the Percherons have been gaining in popularity during the past ten years. The Suffolks and Shires are also used by some, and excellent results have been obtained by their use.

The ranchers of the past selected "cayuse," *i.e.*, Indian pony mares, very largely as their foundation stock. The majority employed a medium-sized stallion of good quality of one of the draught breeds for the first cross and larger specimens of the same breed for subsequent crosses. Some ranchers employed stallions of the lighter breeds, such as thoroughbreds, standard-breds, Hackneys or Coachers, for the first cross, as a means of securing quality in their herds, and later employed sires of one of the draught breeds to secure the desired weight. Horses grown on the range are usually termed "bronchos."

Sheep Ranching

Sheep raising on the range is carried on along somewhat different lines from that pursued in the growing of horses and cattle. The sheep are "run" in "bands" or herds of from 2,000 to 3,000 head each. These are put in charge of a herder. A herder's outfit consists of a covered wagon in which there is a bed, a stove, and a supply of food and fuel sufficient to last him for approximately two weeks. He usually has a team of horses and sometimes

a saddle-horse. He is supplied with a long-range rifle and a collie dog.

When one range is eaten bare another is selected. Most sheep ranchers have permanent winter headquarters consisting of the ranch house, shearing corrals and sheds, and a large building, approximately 100 ft. square, in which the sheep are housed at night and during stormy weather. Most ranchers feed during the winter months hay and grain or oats cut in the green state (green feed), in addition to the food secured on the range. Some sheep ranchers, however, live on the prairie throughout the year. The weak animals that cannot endure the hardships of this system are sent to the ranch headquarters or are left to die. A sheltered spot is selected at nightfall for a bedding ground, and during the day the animals are compelled to "rustle," the herder keeping in close touch with his charge no matter how cold the weather. When storms arise and the herd begins to drift, the herder follows them till a sheltered spot is reached or the storm subsides. This system is a hazardous one both to the herder and to the flock.

Sheep ranching, like horse and cattle ranching, has declined rapidly during the past five or six years. Sheep at present on the ranges of Southern Alberta and South-Western Saskatchewan number between 100,000 and 125,000 head.

The class of sheep best suited to the ranching system are known as Merino grades. Merino ewes are employed as foundation stock and are crossed with rams of larger and superior mutton type. The Lincoln and Cotswold are selected by some on account of their large size and the heavy clip of wool secured by their use. They are condemned by others because of the openness of their fleeces, which makes them sensitive to cold. The Shropshire and Oxford Downs find favour with many ranchers for crossing on Merino ewes because of the closeness of their fleeces and the excellent carcass of mutton which results from the cross.

The Romney Marsh, which is such a favourite among the ranchers of New Zealand, has not yet found its way into the Prairie Provinces of Canada.

Prior to 1905 range sheep were confined to certain small areas in Alberta and Saskatchewan which had been especially set aside for sheep grazing purposes, and a law was enacted prohibiting the grazing of sheep on Crown Lands outside of these

areas; but as the provinces developed large tracts that had formerly been claimed as pasture lands by the horse and cattle men were granted by the Crown to railway, irrigation, and other development companies, and these, remaining for a considerable period unenclosed, were rapidly invaded by the sheep herder. The system of wandering about from one unenclosed tract of "speculator" land to another in time became known as "pirating," and the men engaged in it became known as "sheep pirates."

The Small Stockman.

In the foothills of the Rockies in Southern Alberta, throughout Central and Northern Alberta, Northern and North-Eastern Saskatchewan and all of Manitoba, climatic conditions impose upon stock growers somewhat different methods from those pursued in the "Chinook Belt." This difference in methods lies chiefly in the fact that, because of the ground being covered with snow, live stock has to be fed during a portion of the winter months. The amount of feed required varies with different seasons, different altitudes, and different latitudes, but it may be safely placed at from 1 to 3 tons of hay per head per annum. The men who are operating under these conditions stand about midway between the farmer and the true rancher, and though generally styled ranchers are more appropriately termed "stockmen."

Because of the necessity of hand-feeding the stock must be kept close to headquarters during winter, even in the mildest weather, lest a storm arise and they drift away from their feed. The necessity of hand-feeding also prohibits the handling by one individual of a large number of animals. Herds numbering tens of thousands, such as were once found among the ranchers, are unknown here, about 2,000 head being the maximum.

Little indoor feeding is done by any of the stockmen of the region described. In the extreme north calves are sometimes housed during winter, and weanling colts are provided with a shed open to the south, to which they can go at night and during stormy weather. Ordinarily the south side of a hill or an abrupt depression in the prairie—in Western parlance a "coulee"—or an opening in a piece of woodland is selected for winter quarters. Hither the animals are brought late in autumn. They are usually accorded some

LIVE STOCK AND POULTRY

liberty during fair weather, but they are taught to return to shelter at nightfall and on the approach of a storm. In this region winter fattening of cattle is carried on to a considerable extent. This is particularly true where some attention is paid to cultivating the soil and grain is supplied in addition to hay.

Few stockmen operate on lands leased from the Dominion Government. As a rule they acquire title to one or more square miles (sections) of land. On this the necessary buildings and corrals are erected. It is usually fenced and reserved for hay, bull and stallion pasture, and the growing of grain. In the spring the cattle and horses are turned out to graze on the unoccupied lands in the vicinity, and in autumn they are "rounded-up" and brought into winter quarters. Branding is practised by the stockmen in the same manner as by the ranchers.

Although Shorthorns, Herefords, and crosses of these two breeds predominate among the stockmen, the other beef breeds are to be found in larger numbers than is the case on the open range. The Galloways are highly esteemed by many who operate in districts subject to frequent cold rains or falls of snow, while the Angus are preferred by many who fatten steers for the spring market.

The rapid influx of settlers into the Prairie Provinces which began about 1898 affected the ranchers and stockmen in different ways. Those operating on the open prairie, on lands suitable for grain growing, soon found their grazing lands occupied by a people devoted exclusively to the production of grain. Live stock of all kinds were neglected by the new-comers. Few even attempted to breed the horses that were required to replace those worn out annually in the mad rush to bring additional acres under control of the plough; few kept even a sufficient number of animals to consume waste products, and the lighted match was applied to everything that could not be marketed through the grain elevator. But adversity brought with it the adoption of sauer methods. Constant cropping was soon followed by a loss of fertility and a waste of humus; the destruction of root fibre incident to frequent tillage put the soil in a condition to drift readily; noxious weeds infested the land, and the returns from exclusive grain growing frequently fell below the cost of production. Then the exclusive

grain grower was forced to change either his methods or his geography. Many whose farms lay close to a town or city adopted dairying as a side-line; others more remote took up the growing of beef cattle.

In Southern Manitoba and parts of Saskatchewan and Alberta horse raising is beginning to assume large proportions. From the Brandon, Manitoba, district alone the exports of horses during 1911 amounted to 1,200 head. In Southern and Eastern Alberta there has set in a strong movement toward the growing of sheep in connection with extensive grain farming. The importations into Alberta from the United States of sheep for feeding and breeding purposes amounted in 1912 to 59,767 head. Besides this the ranchers of the province report a larger number than usual of ewes sold to farmers.

In the bushy and park districts of the Prairie Provinces the change from exclusive stock growing to mixed farming was made in a manner somewhat different from that described above. Here the pioneer stockman usually found his hay or grazing lands curtailed, not by a settler bent on grain growing, but by the advent of another stockman, and they in turn by the coming of a third, and so on until, under the primitive methods prevailing, the live stock population of the country exceeded its carrying capacity. Necessity compelled a reduction in the size of individual herds and greater returns per head from the animals retained. Thus the winter feeding of beef cattle for the spring market became general in districts where hay was abundant or where the land could be easily brought under cultivation for the growing of grain to supplement the hay supply. Dairying also was resorted to, particularly by those whose financial condition necessitated more frequent cash returns than are obtainable when growing beef cattle. Swine growing also developed as an adjunct to dairying and soil cultivation, while horse raising was carried on to a limited extent by both dairymen and cattle feeders.

There is probably no more flourishing branch of agriculture in the Prairie Provinces than that of dairying. The sudden springing up of towns and cities where but a few years ago there was nothing to break the monotony of the prairie, and the rapid development of large centres of population in British Columbia, as early as 1910 transformed the Prairie

Provinces from exporters to importers of dairy products. Prices unthought of before began to prevail, as much as \$2.25 per cwt. being paid to farmers at their doors during the winter months for milk testing 3.25 per cent. of butter fat.

The prices realized for butter by the patrons of those Alberta creameries whose output was marketed under the direction of the Provincial Dairy Commissioner has been as follows:

Years.		Months	Price (cents per lb.).
1906	...	Summer	17.5
1906-07	...	Winter	23.8
1907	...	Summer	19.4
1907-08	...	Winter	26.3
1908	...	Summer	21.6
1908-09	...	Winter	21.9
1909	...	Summer	20.0
1909-10	...	Winter	24.2
1910	...	Summer	29.9
1910-11	...	Winter	28.2

Following herewith is given in cents per lb. the average selling price of butter in the province of Saskatchewan from 1906 to 1911 for the six summer months:

Year.		Average Selling Price.
1906	...	\$20.40
1907	...	23.59
1908	...	23.39
1909	...	23.44
1910	...	24.28
1911	...	23.88

Following herewith is given the selling price of butter in the province of Manitoba from 1906 to 1911:

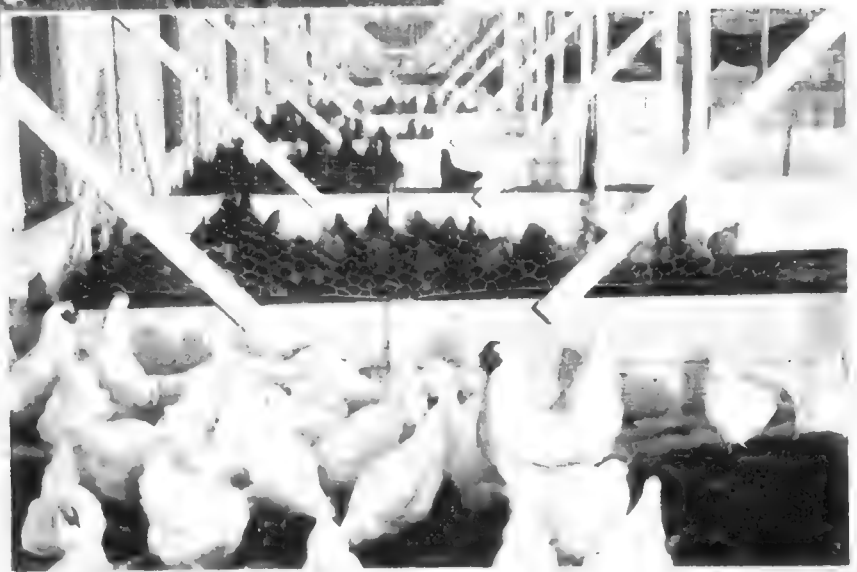
Year.	Lb.	Value.
1906	6,451,694	\$1,182,502.33
1907	4,816,244	1,048,538.29
1908	5,786,942	1,216,975.65
1909	5,616,427	1,208,187.20
1910	6,905,759	1,537,613.28
1911	7,638,416	1,715,982.62

Live Stock Statistical Returns for 1911 have not yet been issued by the Dominion Government. The figures given below are taken from the Annual Reports of the provinces:

ALBERTA.

1912 Report.

Horses	...	557,571	
Swine	...	536,915	
Sheep	...	366,946	
Dairy cows	...	164,989	944,464
Other cows	...	142,243	
Beef cattle	...	161,985	
Other cattle	...	475,247	



1. POULTRY FARMING, C.P.R.'S DEMONSTRATION FARM, STRATHMORE, ALBERTA.
 2. A POULTRY FARM. 3. POULTRY BREEDING.

LIVE STOCK AND POULTRY

MANITOBA. 1911 Report.

Horses	...	...	...	251,572
Cattle	...	...	...	407,611
Sheep	...	...	...	37,227
Swine	...	...	...	192,386

SASKATCHEWAN. 1911 Report.

Horses	...	...	...	574,972
Milch cows	...	...	...	231,297
Other cattle	...	...	...	546,205
Sheep	...	...	...	125,072
Swine	...	...	...	333,218

As a rule the "out-door" method of winter feeding beef cattle prevails throughout the Prairie Provinces. In some instances "an opening" varying in size from 100 ft. square to 300 ft. square, according to the number of cattle to be fed therein, is made in a piece of brush land and used as the feeding-ground; V-shaped racks are built for hay, and troughs, usually termed "bunks," resembling stoutly built tables, 3 ft. wide and from 20 to 50 ft. long with an 8-in. plank set edgewise around the outside, for grain, are installed in different places throughout this opening, while straw is scattered about for bedding. As many as 300 head of cattle are fed together in lots of this kind. Where bush land is not available, a corral is built of suitable size with a tight board fence 8 ft. high; the racks are attached to the inside of the fence and the "grain bunks" are distributed about the enclosure. Hay and green feed are brought in by the wagon load and the racks are kept continually supplied. Grain is fed moderately at first, but the amount is gradually increased until the limit of what the animals will consume is reached, when they are said to be on "full feed." "Full feed" is usually reached in from four to six weeks.

At this point methods of feeders differ. Some limit the grain allowance to what the animals will "clean up" within one hour; others keep the "bunks" liberally supplied with grain all the time. The latter method is attended with some risk, particularly where there are animals under three years old in the feed lot or where the grain ration consists of a large percentage of wheat. Where only mature animals are being fed and the grain ration consists of at least 50 per cent. oats, this method may be safely followed and results equally as good as those secured by the former method obtained thereby. An

increase in weight of 200 or more pounds per animal is usually attained by either method.

The principal problem confronting the dairyman of the Prairie Provinces is the securing of succulent feeds for the winter months.

In Southern Manitoba, Indian corn is being grown and converted into ensilage. At the Brandon, Manitoba, Experimental Farm large crops of lucerne are grown in addition to Indian corn. In Saskatchewan and Alberta "green feed" supplemented by roots, chiefly swedes, is the mainstay of the dairyman during winter. Ground oats constitute the grain ration on most dairy farms throughout the Prairie Provinces, although bran is largely used in many places. Winter rye is growing in favour as an autumn and early spring forage crop, while brome grass (*Bromus inermis*) is relied on by many for summer pasturage and hay.

In the irrigation belt of Southern Alberta lucerne is grown very largely, and is used in feeding dairy cattle as well as in fattening sheep and in wintering swine.

Swine

The farmers of the Prairie Provinces have not given the attention to swine growing that the importance of the industry would justify. Many attempts were made to embark in the business on a large scale, but, owing to ignorance of the fundamental principles of swine feeding, the greater number of these ventures resulted in failure. Because of this, the opinion became general that the country was not suited to the industry. The errors of the past consisted chiefly in the fact that little attention was paid to the adaptability of the feed, particularly the grain ration, to the requirements and period of development of the animals. The wheat grower fed wheat, and wheat only; the grower of coarser grains relied on these, and too often fed them whole, without considering whether the animals receiving them were sufficiently matured to digest them. Serious losses were sustained because of ignorance in constructing piggeries suited to the climate. Too much stress was laid on the importance of supplying warmth, while the greater importance of providing light and ventilation was entirely overlooked. Piggies were frequently built without a window or any provision for admitting air, with the result that the

animals confined therein became rheumatic, pneumonia carried off large numbers, while tuberculosis made others unprofitable to the men who grew them and a total loss to those who purchased them.

In the course of time it became known that the pile of wheat straw, to which the lighted match had formerly been applied, could, with but little labour, be converted into one of the best of winter houses for hogs. It was also found that animals kept in pens in which ample provision had been made for light and ventilation made greater gains in weight than those confined in much warmer quarters without these requisites.

Piggies having the ceiling built of boards placed about 3 in. apart supporting a layer of straw about 2 ft. deep, over which the wind is permitted to circulate freely through an opening about 2 ft. square at the gable ends, are growing in favour in districts not subject to high winds. Where high winds forbid the leaving of such openings, the substituting of factory cotton for glass windows in the proportion of 2 sq. ft. for each mature hog and 1 sq. ft. for each immature one is giving excellent results.

As the result of a vigorous campaign of education on the part of the Departments of Agriculture in the Prairie Provinces and of the Dominion, more rational methods of feeding are being practised. Attention has been directed to the importance of supplying milk to young pigs, also to the value of succulent feeds, such as rape, and to the unwisdom of feeding young animals largely on wheat or barley. Those swine growers who have been heeding these instructions have no difficulty in bringing pigs to a weight of 200 lb. at six months old, and numerous cases of a weight of 250 lb. in six months have been reported.

The breeds of swine which find most favour among the settlers are Yorkshires, Berkshires, Tamworths, Duroc Jerseys, and Poland Chinas, the last two being American breeds of the lard type.

Poultry

Poultry raising in the Prairie Provinces is carried on as a "side" line on most farms and in the smaller towns and villages. In some of the larger towns and cities there are a few fanciers and specialists who make it their main business.

The supply of poultry throughout these provinces is far below the demand. Each

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province imports approximately \$1,000,000 worth of poultry and eggs annually. The greater part of this supply comes from Eastern Canada, but shipments have been made from the United States as well.

The breeds most in favour are those known as the utility breeds, such as the Orpingtons, Rhode Island Reds, Barred Rocks, and White Wyandottes.

The principal problems that confront the poultry raisers are securing early chicks and providing proper winter housing. In order to solve the former the incubator must be employed. All chicks should be hatched by the end of May in order to secure good feathering before autumn. Under no circumstances should any be hatched after July 1st.

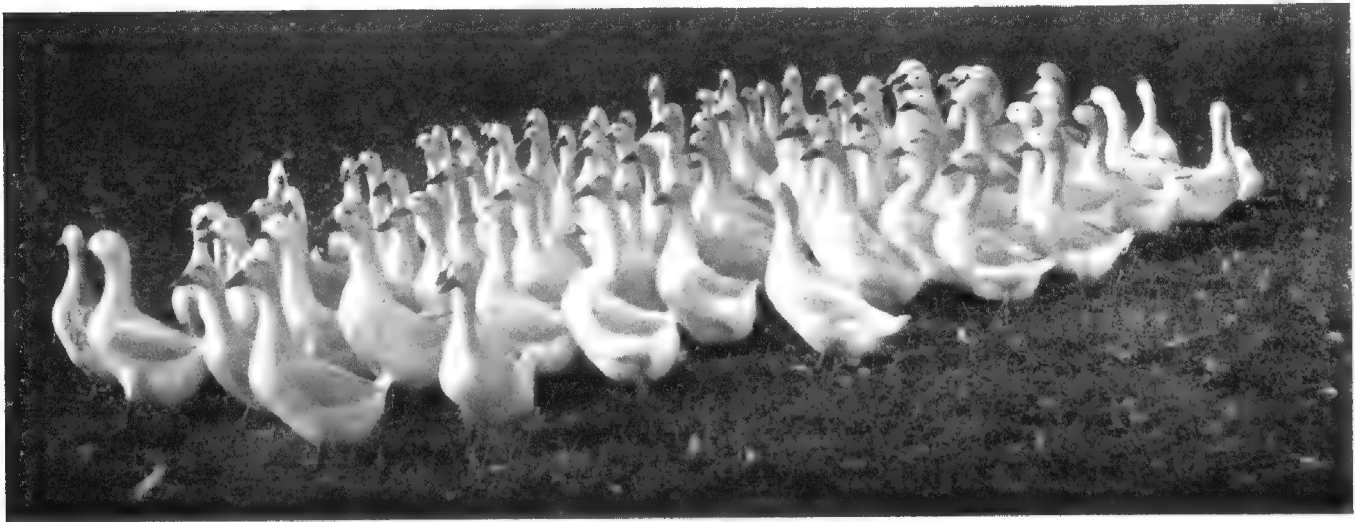
As in swine growing, the early settlers paid too much attention to constructing warm winter quarters for their birds and not enough to providing light and ventilation. The result was severe losses from roup and kindred ailments. The most advanced poultrymen of to-day construct their poultry houses with a southerly aspect. No openings are made on the north side. With the exception of a door, the east and west ends are also without openings. About two-thirds of the south side consist of factory cotton or light canvas. Some fanciers have the south walls of their poultry houses consisting of about an equal number of square feet of lumber, glass, and factory cotton or light canvas. In order to prevent the combs of the birds from

freezing during extremely cold weather, provision is made for drawing down at night-fall a light canvas curtain immediately in front of the roosts.

Many successful poultrymen construct houses consisting of two or even three-ply ship-lap, with one or more courses of tar paper between them, and rely on ventilation through a layer of 1 ft. of straw in the ceiling, over which the air is permitted to circulate freely.

The principal feeds employed in poultry raising are wheat, oats, bran, and some sort of succulent food. In summer the native grasses and rape are relied on chiefly. In winter sprouted oats and swedes or turnips are largely employed.

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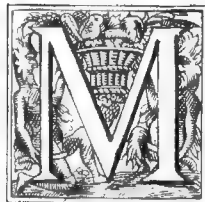
DUCKS DO WELL IN THE MIDDLE WEST.



RESIDENCE IN DAUPHIN, MANITOBA.

HORTICULTURE

By GEORGE BATHO, EDITOR, "NOR'-WEST FARMER," WINNIPEG



MOST new-comers to the Prairie Provinces of Canada find that in the study of horticulture they have to begin all over again: they are unfamiliar with our climatic conditions.

Briefly stated, the salient features of our climate are these: We have warm summers, usually with fair rains in June and July, followed by drier weather during August, September, and October. About November both the ground freezes hard and winter begins. The winter's frost is keen at times, and as a rule our snowfall is not very great. As the days lengthen in March, the sun usually shines very brightly, and with considerable power in midday, and the temperature falls low at night. The rapidly alternating freezing and thawing, combined with the dryness of the air and frequently the dryness of the soil, is very trying upon all plant life that is exposed above ground; and usually the question as to whether or no a tree or other perennial can live in this country is simply the question as to whether it can withstand the climate between March 1st and May 1st. To

understand the climate is absolutely indispensable if one would study our horticulture.

Probably the simplest subdivision of the subject will be under the following heads: Trees, Shrubs, Climbers, Fruits, Vegetables, Flowers.

Trees.—I shall not touch upon professional forestry, but will try to deal with trees only as the farmer and urban dweller are interested in them. The commonest native tree in which the country is clad is the aspen poplar, a good firewood, but not very valuable otherwise. Other native trees of greatest importance are the spruce, jack pine, and tamarack, while the American elm, green ash, Manitoba maple or box-elder, white birch, cottonwood, balm of Gilead, and scrub oak are all native trees of less generous natural distribution, but used for shade and ornamental planting. There are also many kinds of willows and shrubs of no commercial importance. The trees generally are dwarf in size when compared with those of humid regions.

In a country where treeless prairies abound the advantage of planting trees for shelter about farm buildings and yards is apparent, and the Forestry Branch of the Dominion Government is encouraging

this movement by offering free trees to farmers. These trees are grown on the Government Forest Nursery Station at Indian Head, Saskatchewan, and are mostly sent out at one or two years old. The actual number of applicants to receive trees during the fiscal year of 1912 was 3,618, and the number of trees distributed was 2,729,135, an average of 754 trees to each applicant. The Government insists that the land upon which the trees are to be planted shall be properly prepared before the trees are supplied. In the Forestry service are travelling inspectors who visit the farms of applicants and offer much valuable advice relative to the care of the trees. The Government's free tree scheme is very popular, and very effective in aiding farmers to improve their farms.

The trees mostly used for shelter belt or general farm purposes are the Manitoba maple, ash, cottonwood, elm, Russian poplar, and several varieties of willow.

For lawn or ornamental planting there are available all of the above and various less common but finer trees. Among these are several evergreens that are quite hardy and that grow quickly once they have become properly established. The spruce is by all means the most common native evergreen,

THE PRAIRIE PROVINCES OF CANADA

and when properly treated it is an admirable tree for the home grounds. Besides the native spruces, there are a number of introduced species that are hardy, and for a choice lawn position nothing is finer than a handsome specimen of the Colorado blue spruce, a native of the Rocky Mountain region. Then there are several hardy introduced pines, best known of which is the Scotch pine. Among the finer deciduous lawn trees one would name the cut-leaf weeping birch, native white birch, mountain ash, native elm, and green ash.

These trees would not grow with equal success in all parts of the Prairie Provinces. In fact, the differences in altitude and moisture supply in different regions are so pronounced as to render it almost impossible to maintain in some places trees that thrive well in others. Generally speaking, the higher elevations and the drier parts are the least hospitable to tree growth. The finest natural tree growths in the three provinces are those close to the rivers in Manitoba.

Shrubs.—Although the country has but few native shrubs of any great horticultural value, still there have been introduced a goodly collection that are quite reliable and very desirable.

Among the native kinds that adapt themselves to decorative planting, one of the most successful is the snowberry, quite a common little prairie shrub, which can be used with very good effect for small trimmed hedges. The Saskatoon or June berry bush, the hawthorn, the native plum shrub, the choke cherry, two types of spiraea, the high bush cranberry, and the prairie rose are all native flowering shrubs considerably used in ornamental plantings.

Of all the introduced shrubs that are successful I can give space only to a few of the best known. Among these the caragana must come in for first mention. This is because of its extreme hardiness and general utility. The caragana, or Siberian pea tree, was brought from Russia, and there is possibly not a native plant in the Prairie Provinces that is more hardy. It is readily grown from seeds, which it yields in profusion; it bears a bright yellow blossom, has attractive foliage, and can be trimmed into handsome hedges. There are many varieties of lilac that are quite hardy, and on account of the generosity and fragrance of their bloom they are universal favourites. The different varieties of the Tartarian or bush honeysuckle are

much used and are to be recommended. These bear a profusion of sweet-scented flowers, followed later by bright-coloured berries. Because of its extreme hardiness and varied adaptation, the cotoneaster deserves very favourable mention, notwithstanding the fact that as yet it is very little known. Among the introduced shrubs, however, one that gives rare satisfaction for ornamental planting in localities not too severe for it is the Asiatic maple, a shrub tree that takes on blood-red autumn tints even before the first autumn frosts touch its foliage. Among the other shrubs available, perhaps the most worthy of mention are the spiræas, of which several quite distinct sorts are generally successful; the barberries, which afford such unusual colours of foliage; the cornus or dogwood; the rose, which, besides being represented by a pretty native type, is otherwise of successful culture in a limited way; the Missouri flowering currant; and the Russian olive.

Climbers.—By all means the most successful perennial climber is the Virginia creeper or American ivy. It is hardy, rapid in growth, and dense in foliage. Other perennial climbers that do fairly well are the native climbing bitter-sweet, the native grape vine, and certain climbing varieties of honeysuckle introduced from Siberia. There are many annual climbers that are much used and do well, such as morning glory, scarlet runner beans, canary bird vine, native hops, Japanese hops, wild cucumbers, &c.

Fruits.—Manitoba, Saskatchewan, and Alberta are much more noted on account of the large amounts of fruit that they import than because of the quantities that they grow. The region is not quite devoid of fruit, but practically it is almost so. The only native fruit to be commercially handled to any extent is the blueberry, and this is mostly imported from Western Ontario, although gathered to a small extent in Eastern Manitoba. It is a very good native fruit, much used for preserving, but is not considered adaptable to cultivation. It grows in waste portions of the country. Other native fruits gathered in small quantities for family use are the red raspberry, strawberry, cranberry, Saskatoon berry, currant, gooseberry, wild cherries, and wild plums.

Under cultivation small fruits generally are more responsive than tree fruits. Currants, red, white, and black, all thrive

well and produce liberally. Gooseberries of the large English types are not successful here, but such hardy varieties as the Houghton, Smith's Improved, and Downing do very well when given proper care. For one who can find a sufficiently moist subsoil, probably the most remunerative fruit to grow is the red raspberry. There is a native variety of this fruit, but a few of the tame varieties are reasonably hardy, and the demand for the raspberry is always very keen and the price very high. Instances are on record in which growers have sold at the rate of about \$750 worth of raspberries per acre from patches grown in favourable localities. These cases are very rare, of course, because commercial fruit growing is still undeveloped in the Prairie Provinces. The native strawberry is a delightfully delicious fruit, but so scarce and small as to be too tedious to gather. Several varieties of cultivated strawberries, however, produce quite well under proper culture.

In tree fruit culture, success is really surer with plums than with apples. Among the native trees of North America are three or four forms of wild plum, and these have been used as the foundation stock from which have been built up several very satisfactory hybrids and selections, a few of which will ripen their fruit in our latitude. The Cheney, Aitken, and Surprise are most to be recommended of the named varieties of plums, while some few unnamed strains of the native plum are worthy of cultivation. The European and Japanese types of plums are all too tender for any part of the Canadian prairies.

In apple growing one Manitoba farmer has had so much greater a measure of success than any one else in these three provinces that his name must be given. This is Mr. A. P. Stevenson, of Morden, Man., who, aided by his enthusiastic wife, has several acres of apple orchard, with probably from twenty to thirty bearing varieties. During many seasons Mr. and Mrs. Stevenson have grown about two hundred barrels of apples and crab apples, and every autumn they are able to exhibit excellent specimens of very handsome fruit. A few other less conspicuous successes could be named; yet there are only a comparatively limited number of places in the Prairie Provinces at which apples have ever been ripened. In connection with apple growing it may be noted that several years ago the Dominion

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Experimental Farms discovered that the imported Siberian crab, although of no value for its own fruit, possessed an extreme degree of hardiness, and, using it as a base, they began to hybridize with good commercial apples. Some of the crosses have been very encouraging, being quite hardy in our climate and bearing fruit very much larger and much less astringent than the parent crab. Second crosses between the progeny and standard apples have now been made, and it is confidently hoped that varieties of fair quality and of such general hardiness as to be available for all of the prairie region will soon be evolved.

Tenderer tree fruits, such as pears, apricots, peaches, nectarines, and citrus fruits, are quite out of the question.

Vegetables.—The list of vegetable successes is a long one. Most garden vegetables are annuals, and our soil produces a rapid growth, and our summer climate is favourable to most annuals that do not require too long to mature. Generally, too, our

vegetables are of very high quality. The following might be listed as the most successful vegetables: asparagus, beans, beets, cabbage, carrot, cauliflower, celery, citrons, corn, cress, cucumber, endive, horseradish, kale, kohlrabi, leeks, lettuce, mint, onions, parsnips, peas, potatoes, pumpkins, radishes, rhubarb, rutabagas, salsify, spinach, squash, Swiss chard, tomato, and turnips.

Close to the large cities market gardening of vegetables is somewhat carried on, but, notwithstanding the ease with which they may be grown, large amounts of vegetables are imported from the United States.

Flowers.—Flowers are grown quite as successfully as garden vegetables. In addition to the bloom of the flowering shrubs, several perennial flowers of herbaceous growth are very successful. To give anything like a full list of these would be impossible here, but a few may be named. The peony, with its glorious rose-like bloom, is quite

hardy all over the Canadian prairies; so are the German irises, which have so many combinations of rare colours; so is the dainty columbine, the golden glow, the bleeding heart, several of the poppies, achillea, phlox, pinks, delphinium, several types of the lily, lychnis, &c.

Of annual flowers there are a great number available to the horticulturist. The common experience of the visitor is one of surprise at the excellence of our sweet peas, dahlias, asters, petunias, nasturtiums, stocks, and zinnias, while of other lesser-known sorts there are scores that thrive remarkably well. A good flower garden is very easy to provide in any one of the three Prairie Provinces, while in all quarters Nature has strewn a profusion of bright wild flowers.

Finally, it should be remarked that no one should judge of our horticultural possibilities too harshly. This is a new country, and year by year should, and no doubt will, add to its list of successful varieties.



ON THE OUTSKIRTS OF BATTLEFORD



SEEDING ON A LARGE SCALE: TRACTOR HAULING FIVE DRILLS.

DRY-FARMING

By W. H. FAIRFIELD, SUPERINTENDENT, DOMINION GOVERNMENT EXPERIMENTAL FARM, LETHBRIDGE, ALBERTA



THE publicity given to the methods of dry-farming, which is in itself a newly coined word, by such organizations as the International Dry-Farming Congress, together with the space devoted to the subject in agricultural papers, has kept it so much before the public that the question is often asked by new-comers as to just what dry-farming is. The commonly accepted idea of dry-farming in Western America includes any farm operations carried on where the total annual precipitation is less than 20 in. It has been proved beyond all manner of doubt by venturesome pioneers from the earliest date of settlement to the present time that the methods of farming where the annual precipitation is limited must be different from those practised where the rainfall is greater. The cardinal principle that underlies this method, and makes it possible to grow crops profitably where only a light rainfall is received, lies in summer-fallowing or in giving careful summer tillage once in two or three years—that is, in preventing absolutely the growth during the summer of any vegetation which interferes with the supply of moisture required by the plants. These plants, again, drawing the moisture from the soil, leave the land in a condition to absorb the rain as fast as it falls. The operations necessary to prevent the growth of unnecessary

vegetation keep the surface of the ground loose and form a mulch which reduces evaporation to a minimum. The amount of moisture thus stored by a thorough tillage is such that crops can be raised during the following season even though the rainfall is extremely small. If the subsoil is of a close and clayish formation and retentive of moisture, the effect of such a summer-fallowing lasts for more than one year, and the second crop following the summer-fallow receives some little benefit. It can be readily seen that by these methods the rainfall of two years is virtually utilized to produce one crop, or, if the land is summer-fallowed once in three years, three years' rainfall is utilized to produce two crops.

Although summer-fallowing has been practised by farmers for several centuries in the more humid districts, the use of the bare summer-fallow to store up moisture in the subsoil is a relatively new idea in Western America, and it is probably the most important essential in dry-farming methods and one which differentiates them from the methods ordinarily used in countries where the rainfall is greater. Mr. Angus MacKay, Superintendent of the Experimental Farm at Indian Head, was the first in the Canadian North-West to call attention to the extremely beneficial effect that summer-fallow has on the yields of the grain crops in districts of lighter rainfall. Mr. MacKay has been preaching the gospel of careful, intelligent summer-fallow for the last 20 or 25 years, and as

a result dry-farming practices are more generally adopted in the Canadian North-West than is the case in the States just south of Alberta and Saskatchewan.

As just indicated, the idea of using the summer-fallow with the sole purpose of storing up moisture to be used in the following season is unique to dry-farming, and forms the basis of its success. There are, however, a number of minor details which should be mentioned. It has been found to be a poor practice to plough the land when it is dry, for when this is done the land comes up lumpy, and large air-spaces are left in the soil which allow it to dry out rapidly. Every endeavour must be made to prevent evaporation immediately after ploughing; this can be done by immediate harrowing or by other means of pulverizing. The physical condition of the furrow slice is often improved by the use of the packer. The time of the year when the land is ploughed for summer-fallow, the depth of ploughing, and numerous other details all have a particular bearing on the resulting crop, but none of these special details of cultivation are sufficient to warrant a successful crop in a dry season unless moisture has been stored in the subsoil by the introduction of the summer-fallow.

This idea is still carried out when virgin sod is broken. We find that the best results are obtained when the sod is broken in May or June, before the rainy season is over, and, after being allowed to stand idle during the summer, is either

DRY-FARMING

prepared for the crop by disking or by being back-set an inch or so deeper than it was broken in the fall. This gives a much heavier crop than could possibly be secured if the land were broken in the spring and put into crop immediately.

To realize the importance of a bare summer-fallow to store up moisture where the rainfall is limited, it must be understood that there is absolutely no ground water under ordinary circumstances that can affect the crop in any way. As a usual thing the ground is absolutely dry from 25 to 50 ft. down, and often much deeper; for moisture to be reached at as shallow a depth as 12 or 14 ft. is the exception rather than the rule. In the ordinary course of events the rainfall does not penetrate down into the sod more than from 2 to 3 ft. In the drier districts a period of rainy weather that will wet the prairie sod down to a foot and a half is considered quite heavy. If, on the other hand, the land has been ploughed and no crop is allowed to grow, this moisture is not used up, but remains in the soil. The dry layer underneath prevents it from leaching downward, and here it can be held for an almost indefinite period, providing no plants are growing on it to draw on the moisture and provided that evaporation is prevented by the formation of a soil mulch at the surface. Under ordinary circumstances on the prairie, after it has been wet down to a foot and a half and no rains come for a few weeks, the growing vegetation absorbs practically all the moisture, so that a second heavy rain does not wet in any deeper than the previous one, but on a piece of land that

has been summer-tilled this rain is readily absorbed and the moisture zone lowers itself into the subsoil in proportion to the amount of rainfall.

In September the writer has by the use of a soil auger found moisture to a depth of 6 or 7 ft. on prairie sod that had been broken in May and early June, while on the virgin prairie a few feet away it was "powdery dry" as far as was ascertained by the soil auger. Wheat will send rootlets down, under these circumstances, to a depth of $3\frac{1}{2}$ to 4 ft. for moisture.

Summer-Fallow

As successful dry-farming is dependent upon the use of the summer-fallow to a greater or less extent each year, a few words in regard to the most successful method of treating the soil during the season in which it is summer-fallowed may not be out of place.

As we get the major part of our annual rainfall during the months of May, June, and early July, it is essential that the ploughing for fallow should be done reasonably early in the season, that is, before the rainy season is over. In fact, the earlier the better, providing the land is reasonably moist and the seeds at the surface have germinated. Any delay in starting to plough means considerable loss of moisture. The growing weeds absorb a great deal of moisture, and in addition the question of evaporation must be considered, since when the land is ploughed the rainfall has a chance to sink rapidly into the ground. To save all the moisture available the practice of disking the land very early in the spring, just after the frost draws out,

is to be highly recommended: this also has a tendency to cover the weed seeds and hastens their germination. In ploughing for the fallow the land should be stirred to a good depth. Immediately after the plough a harrow should follow: if a harrow can be attached to the plough considerable advantage is gained. As soon as any weeds appear a short time after ploughing, many of them can be killed by merely going over the ground with an ordinary drag harrow during the summer. Vegetation of all kinds should be destroyed: the best implement to accomplish this is a 4-horse duck-foot cultivator. The practice of using a disk harrow for this purpose, as is often done, is unwise, as it has a tendency to pulverize the land too much, causing it to be drifted more easily by the wind. If at any time during the summer the land becomes crusted on account of heavy rains, it should be harrowed just as soon as it is dry enough to allow horses to be put upon it: this forms a mulch and stops the evaporation, which is always very great when the land becomes crusted. In an ordinary season two cultivations with the duck-foot cultivator are usually sufficient to destroy the weeds and volunteer grain.

After the land has been treated in this way it will usually be found that the soil is moist in the autumn to a depth of 3 or 4 ft. and sometimes more. In the winter wheat district, the wheat is sown in the latter part of the summer on this land without any further preparation. If spring crops are sown the land is made ready for the seed drill early in the spring by merely harrowing.



FARM NEAR ALBERTA'S CAPITAL.



PRODUCTS OF ONE FARM IN ALBERTA.

ROOTS, VEGETABLES, AND STOCK FOODS

By G. H. HUTTON, B.S.A., SUPERINTENDENT, DOMINION GOVERNMENT EXPERIMENTAL FARM, LACOMBE, ALBERTA



HE soil and climatic conditions in the Prairie Provinces of Canada are such as to insure success in the culture of roots and vegetables and to provide variety in stock foods. Remembering the emphasis laid upon roots as a factor of the ration in all the old live stock countries, it is reassuring to live stock men looking over prairie conditions to know that this essential fodder can be included in the rations here as well as elsewhere. Even a casual round of the vegetable and root exhibit at any of our county or district shows will produce convincing proof of the statement that our climatic and soil conditions are well suited to the successful production of roots and vegetables.

Many varieties of mangels, turnips, and carrots have been grown for years on the experimental farms and stations under Dominion Government control in Western Canada. A perusal of the reports issued by the superintendents of these various farms and stations shows that the crops secured are, on the average, almost equal to those produced on the farms of the

same system in Eastern Canada, where the rainfall is much greater than that of the Western plains. The following figures give the average yield of mangels and turnips at the Central Experimental Farm, Ottawa, and the Experimental Farm at Brandon for the ten-year period from 1892 to 1901 inclusive:

Station.		Mangels. Tons.	Turnips. Tons.
Ottawa, Ontario ...	...	27.94	21.48
Brandon, Manitoba ...	...	26.76	17.07

This similarity in the production of districts one of which has a greater rainfall than the other may be accounted for by the fact that the soil of the prairie is richer in plant food than that of Eastern Canada. On the prairies a solution of soil water is on the average stronger and carries more plant food to the plant than an average solution of soil water in less favoured districts. Thus it is that less water will carry more plant food than a larger water movement where the water is not so saturated with constituents essential to plant development and growth. Such rich humus soils as are found on the Western plains check evaporation of moisture from the surface. The escape of moisture from below through leaching is prevented by a close clay sub-

soil which is also characteristic. Where judicious cultivation of the soil is carried on, moisture sufficient for the germination of even such water-needing seeds as mangel and sugar beet seed will be found in abundance, even though it is necessary to sow that seed before the time when the rainy season of the plains usually opens. Under Western conditions different cultural methods are adopted for roots from those practised in the East. The chief difference lies in the fact that in most cases in the East roots are sown on ridges, while in the West in the majority of instances surface sowing is practised. The advantage of ridge sowing consists chiefly in the fact that plants sown in ridges may be cultivated smaller than is possible in the case of plants sown on the flat. The early hoeing and thinning can also be done to better advantage under the ridge system of sowing, but, on the other hand, the ridging of the land exposes a greater surface area to the drying effects of the wind and sun, it throws loose soil toward one centre, and, even though the soil is rolled or packed after being ridged, it is not possible for moisture to rise as freely through the ridge soil to the seed as it would be able to do if the seed had



1. A FIELD OF POTATOES.

2. MIXED FARMING PAYS IN WESTERN CANADA.

3. A "TRUCK" FARM, ALBERTA.

4. A CABBAGE PATCH.

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been sown on firm soil on the level. Consequently, prairie farmers find it to the advantage of the crop to sow all root seeds on the level because of the question of soil moisture. Frequent cultivation at intervals of a week or ten days after thinning, till the root tops practically cover the ground, will insure (in all seasons which have been encountered as yet in our experience of seven years) a satisfactory crop, in so far as moisture conservation can insure such a result.

For feeding dairy cows, mangels, sugar mangels, or carrots are found more generally satisfactory than turnips, though if turnips are not seeded too early nor allowed to become overgrown, moderate quantities will not seriously flavour the milk.

The question of housing roots is an important one on the Western plains. Root cellars, dug to a depth of 4 ft. under the surface and roofed with poles covered with alternate layers of earth and straw for a depth of 2 ft. and well ventilated, have been giving satisfaction.

All ordinary garden vegetables can be successfully grown here, and such varieties as beets, carrots, cabbage, celery, lettuce, and radish produce such fine quality and grow to such a great size that, in our opinion, vegetables of this class as produced on the great plains cannot be excelled anywhere. Tomatoes are being grown to a limited extent, and other of the tender varieties of vegetables, such as melons, are grown over quite a wide section of the prairie, though as yet they cannot be considered as a standard crop.

Many crops can be grown successfully

over the prairies that are ideal for stock feeding. Alfalfa, red and alsike clover, fodder corn in many sections, timothy, Western rye, brome, and blue grass are grown practically over the entire plains, though, of course, some varieties are better suited to certain sections than to others. It is remarkable to find the wide adaptability of different strains of the same class of plants. For instance, different strains of alfalfa are being successfully grown in the far south, while other varieties are being grown right up to the Arctic circle. At the Lacombe Station we have been growing all of the crops included in the above list, though fodder corn has not been very successful as yet; but I look for the time to come when we can count more upon this crop than we do at present, for the corn-growing area is advancing north and westward year by year. We have grown satisfactory crops of alfalfa, alsike clover, red clover, timothy, western rye, and blue grass. The grasses most suitable for pasture in this section of the plains we have found to be brome grass and blue grass. Both Kentucky and Canadian blue grass have been tried. The former variety of blue grass has given us the best results. The brome and blue grass are ready for use early in the spring; they stand pasturing well and continue late in the season. A very satisfactory form of fodder we have found to be Canadian field peas and oats, sown at the rate of one bushel to the acre of the former and two bushels to the acre of the latter, and cut when in the milk stage, shocked, and cured as hay. This combination has produced over large areas

a yield of over four tons per acre when cured. We have been able to feed it to stock, charging the stock account \$10 per ton for it. It will readily be seen, then, that where a gross return of \$40 per acre can be secured, and where the cost of production does not exceed \$16 per acre, including an allowance both for land rental and barnyard manure as well as for other incidental charges, this is a profitable crop where land values are as low as they are in this country.

From our experience in the growing of forage crops and the practical feeding work we have conducted, we feel safe in saying that there is a great future before the live stock industry in Western Canada. Our soil is productive, the water supply in most cases is abundant, and our climate is well suited to the production of satisfactory foodstuffs which will bring to the highest development the various classes of live stock to which our conditions are so well suited. It was the subject of much wondering conversation at Chicago, at the International Exhibition last year, among the farmers of the United States, who had been depending on corn only for the finishing of beef, that the Grand Champion bullock of the show never had a grain of corn in his life, but was fed on Manitoba hay, roots, oats, and pasture. The fact that a carload of steers fed outside without shelter at Carstairs, Alberta, won the championship from all comers at the Toronto Live Stock Show in 1912 is further evidence that we have the necessary foodstuffs in Western Canada to produce the finest kind of live stock.



A MILE OF TURNIPS.



SOUTHERN ALBERTA



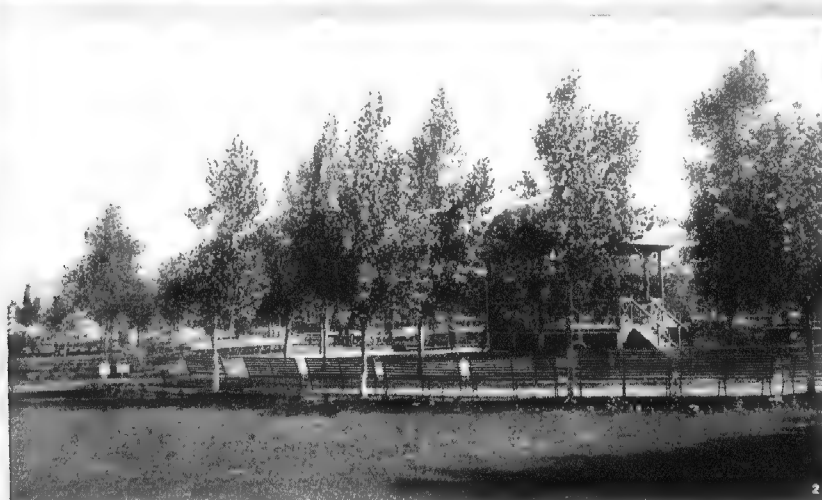
Notion of the three Prairie Provinces is of such interest as that section of Alberta lying to the south of the 52nd parallel of latitude, a district as varied in its resources as it is in its configuration and physical characteristics. From Medicine Hat in the east to Banff in the west, and from the little town of Olds in the north to the International boundary in the south, there may be found agricultural and industrial development in all directions.

In Eastern Alberta the configuration is similar to that of Western Saskatchewan, the vast plateau being adorned by few trees and relieved by few hills. From the eastern boundary to the 114th degree of longitude there is practically nothing but prairie, flat, unlovely, but exceedingly fertile. Gradually, however, these plains merge into the foothills of the Rocky Mountains, and eventually in the extreme west of the province is found the scenery that has attracted to Western Canada tourists from all parts of the world. Some of the finest parts of the Rockies are situated within the confines of Alberta. At Banff commences the National Park, a magnificent reserve,

nearly 5,000 square miles in extent. In his work on Alberta, Mr. Leo Thwaite says: "Not many people, perhaps, are aware that within a stone's-throw of this favourite summer resort (Banff), where grass mounds and old arrow-heads now mark the place of the palisades, Upper Bow Fort stood at the beginning of the nineteenth century. To-day, across the Bow River one has a magnificent and uninterrupted view of the valley beyond, and as far as the eye can reach may be traced the outline of many mountains whose towering majesty, rugged beauty, and snow-capped peaks add grandeur to the scene. This part of Alberta is a land of enchantment, and the memories of the days spent at Banff are memories of sheer delight. The azure blue of the sunlit sky, the dark sombre tints of the forests of pine and spruce which cover the slopes of the mountains, their peaks but newly flecked with the first fresh snow of the season, the deep ultramarine of the streams accentuated by the foaming whiteness of the small rapids looking like drifts of liquid snow, the grey-blue haze fringing the horizon—all these things combined make a picture that, once seen, is not easily forgotten. There are many delightful excursions to be made in the neighbourhood of Banff, and visits to the Museum, to the animal paddock, where

there are some twenty or more buffalo as well as some Rocky Mountain sheep, and to the Hot Springs should certainly not be omitted, for each is well worth the time necessary to see it."

Southern Alberta is traversed by the South Saskatchewan River, which, flowing from west to east, receives the waters of many tributaries, the largest of which are the Red Deer, Bow, Belly, and St. Mary's Rivers. Of these the Bow and St. Mary's are the most important, since they form the bases of irrigation schemes which rank among the largest in the world. These schemes include the irrigation of three tracts of land, containing in all well over 3,500,000 acres of land. By far the largest and most important is that initiated by the Canadian Pacific Railway, which provides for the irrigation of 3,097,580 acres of land lying directly east of Calgary, bounded on the north by the Red Deer River and on the south by the Bow River. This area is divided into three sections, western, eastern, and central, all being of practically equal dimensions, and the water is diverted from the Bow River. The second scheme includes about 350,000 acres lying near the junction of the Bow and Belly Rivers, the water being obtained from the Bow in this case also. This project has been undertaken by a private company. The



1. MEDICINE HAT FROM THE NORTH-EAST—PANORAMA.

2. RIVERSIDE PARK, MEDICINE HAT.

3. CITY HALL, JUNCTION OF MAIN STREET AND FOURTH AVENUE, MEDICINE HAT.

SOUTHERN ALBERTA

third scheme was initiated by the Alberta Railway and Irrigation Company in 1898, but has since been acquired by the Canadian Pacific Railway. The land irrigated comprises about 150,000 acres situated in the district south of Lethbridge, and the headgates of the system are situated on the St. Mary's River.

The effect of irrigation on the agriculture of Southern Alberta has been very marked and most encouraging. Cereals have been and are still raised successfully on non-irrigated lands, but the climate of this part of Alberta is such that the farmer can never be sure of sufficient rainfall to produce a profitable crop. Irrigation has proved an effective remedy for this evil. It is, however, in the promotion of intensive farming that its effects are most noticeable. There may still be found many large farms in Southern Alberta, but the present tendency is strongly in favour of intensive farming on a small acreage. The majority of the farms consist of from 40 to 160 acres, and are largely devoted to raising crops other than cereal. Oats and barley are raised in many cases, but only in sufficient quantities to provide food for cattle, horses, and pigs. Forage crops, such as alfalfa and timothy, are very popular, and good returns are obtained from sugar-beets, which, however, are at present grown almost entirely in the neighbourhood of Raymond. A sugar-beet factory exists at the latter place, and farmers are assured of a good price—generally \$5 per ton—for all beets delivered there. Nearer Calgary and Lethbridge much of the land is devoted to raising vegetables, for which the cities afford a profitable market, while a few farmers give a share of their attention to horticulture.

In the extreme south-west there exist several towns and districts largely populated by Mormons who have emigrated from the state of Utah. It is to the Mormons, in fact, that this part of the country owes its initial development, some 9 or 10 families making their way across the International boundary in 1886 and establishing themselves at Cardston. They have proved excellent colonists and farmers. Much of the land is in their hands, and they have been credited with having been the first to introduce artificial irrigation into Alberta. Mormons in Canada, it may be of interest to note, are under a pledge to the Dominion Government to refrain from polygamous practices.

In Southern Alberta is found one of the most productive coalfields in Western Canada, a large section of the famous Crow's Nest Pass district being situated within the province. Two classes of coal are mined here, steam coking coal being found at Coleman, Lille, and Passburg, while a few miles further east, at Lundbreck, is found a high-grade lignite. Over 1,500,000 tons were produced in the Crow's Nest field in 1912, the next most important district in the province being Lethbridge, where 624,150 tons of lignite were mined. The latter field may be said to include Taber. To the west of Calgary, at Canmore and Bankhead, high-grade bituminous and anthracite coals are produced, and lignite is obtained from Medicine Hat. The latter town is also famous for its supplies of natural gas, a mineral which is also found in large quantities at Bow Island.

Calgary.—Probably no town in Western Canada owes so much to the Canadian Pacific Railway as Calgary, which at present is the second largest city in the Prairie Provinces.

When Canada's first transcontinental railway was projected, it was generally believed that the route would lie through the Yellowhead Pass of the Rocky Mountains, passing through Edmonton on the way. That route offers an easier gradient than can be obtained further south, but necessitates a considerable detour in order to reach Vancouver. The railway company preferred a more direct route, and accordingly built its line through Calgary. This, however, was but a preliminary to other developments that have exercised a powerful influence over the town. To the east the railway company owns large tracts of land, through which runs the Bow River, a stream of generous proportions. Recognizing that by the introduction of irrigation they could make this land support a much larger population than would otherwise be possible, the Canadian Pacific Railway Company in 1904 entered upon the most extensive irrigation scheme that has been undertaken in Canada, water being diverted from the Bow River and spread over some 3,000,000 acres of land. This area is divided into small farms, which have proved a great attraction to settlers. Many thousands of acres have been taken up, and Calgary, as the nearest large town, has benefited to a considerable extent. In 1911 the progress of the

town received further impetus through the action of the Canadian Pacific Railway, which decided to establish its Western shops there. These are not yet completed, but will eventually employ 5,000 men.

Calgary, which is named after a town in the Island of Mull, is situated near the site of Fort La Jonquière, founded by the French in 1752, and claims to descend from Old Bow Fort, one of the first trading stations in the West. For many years the town was merely a halting-place on the road to Fort Benton, housing a transient population of fur traders and buffalo hunters, and being the headquarters of a few missionaries and a detachment of the Royal North-West Mounted Police. At the end of the eighties and in the early nineties it was the centre of a ranching country, but it was not until the twentieth century that the town really began to make marked progress. During the ensuing 13 years Calgary has grown at almost a phenomenal rate. In 1901 the population was 4,427, a figure which by 1908 had increased to 25,000. The growth in population during the next few years probably exceeded all records. In 1909 the inhabitants of Calgary numbered 29,096; in 1910, 42,000; in 1911, 55,000; in 1912, 61,340; and in 1913 the population stands at 72,000. The growth of the town is equally marked in other directions. The building permits grew from \$880,193 in 1904 to \$12,907,638 in 1911; the total assessment of the town's realty values increased from \$4,099,437 in 1904 to \$112,544,400 in 1912; and the bank clearings from \$98,754,389 in 1909 to \$218,681,921 in 1911.

In addition to the main line east and west of the Canadian Pacific Railway, Calgary also has direct communication with Edmonton in the north and Macleod and Lethbridge in the south by lines operated by the same company. The Canadian Northern Railway is constructing a line from Edmonton through Calgary to the south of the province, while the Grand Trunk Pacific Railway has a line from Calgary to Tofield in the north, and two others under construction, one to Saskatoon, and another running in a southeasterly direction to the International boundary. The Canadian Northern Railway also has a line running north to Vegreville.

Calgary is laid out on the rectangular plan common in many cities on the Ameri-

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can continent, the streets running north and south and the avenues east and west. The hotels are mainly situated in the proximity of the station, Ninth Avenue, formerly known as "Whisky Row," being the site of several fine hostelryes. The Canadian Pacific Railway is constructing a million-dollar hotel on this avenue, upon which is also situated the home of the Young Men's Christian Association. Parallel with Ninth Avenue, and a little distance north, is the chief shopping thoroughfare, Eighth Avenue. Here are several fine stores, large office buildings, and numerous theatres mainly devoted to cinematograph exhibitions. Another important shopping centre is First Street West, the busiest part of which lies to the south of the Canadian Pacific Railway tracks, and is reached by means of a short subway. A noteworthy addition to the stores of Calgary was opened in the summer of 1913 by the Hudson's Bay Company. This store constitutes one of the finest to be found in the West. The wholesale district is very important, and includes many large warehouses. This district is situated to the west of First Street West, and is more or less contiguous to the railway. The business section of the city is rapidly spreading, and many new office buildings are under construction. The Beveridge Block and the Grain Exchange Building are among the most substantial and elegant premises. The warehouses in the wholesale district are, generally speaking, more substantial and imposing than the office buildings in the east end of the town, as most of the wholesale firms carry very large stocks. The hotel planned by the Canadian Northern Railway will be a valuable acquisition.

Calgary numbers among its residents several millionaires, who have built themselves magnificent homes in the more attractive sections of the city. The most fashionable residential quarter lies to the south of the railway tracks, where several houses have been built which might aptly be termed palatial. Calgary lies in a portion of Alberta where trees are scarce, except on the river banks, and this has rather detracted from the appearance of the city. Much, however, has been done to make up for a lack of natural beauty, trees having been planted and boulevards constructed in different districts. The efforts of the city authorities in this direction have been ably seconded by the prin-

icipal householders, who have surrounded their dwellings with trim lawns laid out in flower-beds and flanked by low stone walls.

Among the more prominent public buildings the city hall occupies a leading place, combining substantial proportions with a pleasing architectural design. Other buildings worthy of mention are the Land Titles Office, the public library—another example of the insistent generosity of Mr. Andrew Carnegie—and the office of the Department of Natural Resources of the Canadian Pacific Railway. Equally fine, in some cases even finer, are the various schools and churches. In so cosmopolitan a city as Calgary the educational question offers special difficulties, as may be judged from the fact that no fewer than 18 nationalities are represented by the pupils attending the public schools. The interest that Canadians take in educational matters is reflected in the type of schools which they build. In Calgary \$3,000,000 have been expended in this way, and about 20 public schools erected in addition to other establishments of a similar nature. The High School is one of the largest buildings in the city, and cost about \$80,000. The Roman Catholic community has two well-equipped schools, and the Convent of the Sacred Heart has a number of resident girl pupils. The Methodist religious denomination also owns its college.

A recent development in educational affairs is the plan to establish a university at Calgary with degree-conferring powers. The University of Alberta is situated at Edmonton, but the spirit of emulation has seized some of Calgary's wealthier citizens and a fund has been opened wherewith to provide the city with advantages equal to those of the capital city. The new university will be affiliated with McGill College, Montreal. Calgary also has a normal school, or training college for prospective teachers.

Side by side with the development of educational facilities has been the progress made by the various religious denominations. The Church is a powerful factor in the life of Western Canada, and over 40 public places of worship are found in Calgary. The Presbyterians and Methodists are the strongest sects in point of numbers, and are closely followed by the Anglicans. Churches have also been built by the Baptist, Episcopalian, Roman

Catholic, Lutheran, Moravian, Unitarian, Congregational, and Jewish denominations, while the Salvation Army have here, as elsewhere in Canada, a large number of supporters.

Municipal ownership of public utilities is much in favour with Calgary taxpayers. How to obtain a pure water supply is a problem of first importance throughout Canada. In Calgary an ample supply is obtained from the Elbow River, from which a gravity system of waterworks conveys the water to a reservoir which has a capacity of 16,000,000 gallons. The electric light and power plant is also a municipal possession, and was installed at a cost of approximately \$900,000. The city is lighted with arc lamps, of which there are about 400 throughout the various thoroughfares. The plant is capable of supplying 4,500 horse-power during a 24-hour service, the power being generated by steam, and an auxiliary 2,500 horse-power is received from a private company which has a water-power plant on the Bow River. This auxiliary power is received at the municipal plant; the council reserves all right to distribute light and power throughout the city. The cost of light is 9 cents per kilowatt-hour, with liberal discounts varying according to the amount used.

Calgary has wisely acquired its own street railway system, which has returned a handsome profit since its installation, and is a credit to the administrative abilities of the city fathers. The cars are of commodious proportions, and every part of the city and suburbs is served, as well as the principal parks. The latter are 10 in number, and together occupy an area of about 500 acres.

The city is acquiring a certain importance as an industrial centre, and the establishment of manufacturers is given every encouragement. Two tracts of land have been acquired, and sites thereon are sold to manufacturers at \$1,200 an acre. Two sources of power are available—electricity and natural gas. The latter is brought from Bow Island, and is sold at 25 cents per 1,000 cubic feet, the rate being reduced to 15 cents to consumers of 500,000 ft. Electric power is sold at \$30 per horse-power per year for a 24-hour service, and \$24 for a 10-hour service.

Medicine Hat.—Medicine Hat, which competes with Lethbridge for the position of third city in the province of Alberta,



1. EIGHTH AVENUE, CALGARY, THE LEADING BUSINESS STREET.
3. CITY HALL, CALGARY.

2. BEVERIDGE BLOCK, CALGARY.
4. FIRE STATION, CALGARY.

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is a divisional point on the main line of the Canadian Pacific Railway, and lies 656 miles west of Winnipeg.

The city's main claim to distinction lies in the natural gas that is found in the vicinity in large quantities. The gas has been known to exist for years, but until very recent times little was done to utilize it, the supply obtained from a few shallow borings being of no great value. Eventually, however, the more progressive citizens decided upon active measures, and after a few disappointments succeeded in finding a strong flow. Until that time Medicine Hat had not exhibited signs of unusual progress, the population in 1910 only amounting to 4,050. The possibilities of the town, however, were beginning to find recognition. In addition to the natural gas, almost inexhaustible deposits of coal have been discovered, and many people forecasted a future of considerable industrial importance for the town. During 1910 and 1911 settlers commenced to arrive in greater number than before, and the Dominion census taken during the latter year showed a population of 5,750. It was from 1911 to 1912, however, that the longest strides were made, the inhabitants practically doubling in number during 12 months. This progress is being maintained to-day. New factories have been established, more warehouses opened, and many new stores and residences built. The surrounding country, once given over to the cattle rancher, has been invaded by the grain grower and supports a far greater population than formerly. The rapid settlement of the farming districts naturally finds its parallel in the town, and Medicine Hat to-day has about 14,000 inhabitants.

The city has kept in its own hands all rights to the gas and is using them to good advantage. Gas is naturally the chief method of lighting and heating in the town, being sold for domestic consumption at the very low rate of 13½ cents per 1,000 cubic feet, the manufacturing rate being 5 cents per 1,000 cubic feet. Even at these rates the gas returns a handsome profit to the municipality. The cheapness of power also acts as a strong inducement to the manufacturer. For the first five years, in fact, the manufacturer who establishes a factory in Medicine Hat may obtain gas free of charge. Perhaps this is not the greatest of the inducements offered by the progressive council, as other concessions include a free site, some 900 acres

of land having been set aside for that purpose. As a consequence a number of minor industries have already commenced operations in the city, while more than one company with a capital of \$1,000,000 has chosen a site.

In addition to the supply of gas and coal, Medicine Hat has good water and electric light systems. Water is obtained from the South Saskatchewan River, which flows through the city, gas being used to pump it into the mains. Gas is also used for generating electricity, the domestic rate for which is 8 cents per kilowatt-hour, less 10 per cent. discount. For commercial and industrial purposes the rate is 6 cents per kilowatt-hour, less 10 per cent. discount.

In other respects the city shows the same progress that is characteristic of almost the whole of Western Canada. Six large school buildings have already been erected and a seventh is in course of construction, while the plans for a high school, which is to cost about \$300,000, are now completed. The religious needs of the community are supplied by 10 churches, two of which belong to the Presbyterian denomination, while the others are owned by the Methodists, Anglicans, Baptists, Roman Catholics, Evangelical Lutherans, the Evangelical Memorial denomination, and the Salvation Army. The Young Women's Christian Association also has its own building.

Recently the City Council has undertaken a municipal housing scheme which promises a satisfactory solution to a difficult problem. Building in Western Canada is difficult and rather costly, and the authorities at Medicine Hat have decided to build from 300 to 400 houses for working men. By buying material in large quantities, and by constructing a large number of houses at the same time, it is believed that both the actual cost of construction can be reduced and a better house constructed.

There are but few scenic attractions at Medicine Hat, the part of the prairie in which the city is situated being almost entirely devoid of trees. Consequently but little can be said of the parks, of which there are two. The question of playgrounds, however, will doubtless receive its proper share of attention when necessity arises. At present the popular pastimes of baseball, lacrosse, cricket, and football are played in the parks mentioned, while the grounds attached to the various schools

provide recreation facilities for the children. There are also large Exhibition grounds.

The Dominion Government has established a land office in the town, and banking facilities are afforded by eight chartered banks.

Lethbridge.—Situated in the south-west corner of Alberta, the city of Lethbridge lies in the heart of a district which is one of the most important coal-mining areas in the Western provinces and is at the same time widely famed for its wheat-growing powers.

The city came into existence in the early eighties, but for 15 years or more remained a small coal-mining and cattle-ranching centre. It grew but slowly, and even in 1906 only possessed 2,313 inhabitants. With the advent of railway facilities in the form of the Crow's Nest Pass branch of the Canadian Pacific Railway, an impetus was given to the development of the local coal industry and Lethbridge commenced to progress much more rapidly. A census taken in 1911 gave it a population of 10,072, which has by now increased to about 14,000.

The government of the city is vested in a mayor, elected annually, and a council consisting of six aldermen, the mayor being paid a salary and devoting his whole time to the business of the city. No capital expenditure can be made that is not authorized by a two-thirds majority of the ratepayers. The public utilities, with the exception of the telephone system, which is owned by the Provincial Government, all belong to the city, a policy which has proved its advantages in a practical way by enabling substantial reductions to be made in the cost of electric light and water. The former is sold to consumers at 9 cents per kilowatt-hour for domestic purposes and the latter at \$4.05 per quarter. For industrial purposes both are supplied at cost. Electricity for power purposes is sold at \$12 to \$16 per horse-power. Gas is piped into the city from Bow Island and is sold to residents at 30 cents per 1,000 feet and for commercial uses at 15 and 20 cents per 1,000 feet.

The most important industry is coal mining, although various minor industries have been established. Within 4 miles of the city there are 6 large coal mines, each producing from 500 to 2,000 tons of coal a day, while a number of smaller mines help to swell the total output. Slack coal is delivered anywhere in the

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city at 50 cents per ton, coal of standard size being sold at about \$4 per ton.

The railway facilities are good and will shortly be improved by the completion of lines now under construction. Lethbridge is a divisional point on the Crow's Nest Pass branch of the Canadian Pacific Railway, by which line it is afforded direct communication with Winnipeg and the East, while extensions in British Columbia will connect the city with the Pacific coast. The same company connects Lethbridge with Calgary by two lines, one leaving the Crow's Nest Pass branch at Kipp and the other at Macleod. The Canadian Northern Railway is also constructing a line between Calgary and Lethbridge, which will be continued to the International boundary. At present access to the United States is given by the Alberta Railway. In addition, the Grand Trunk Pacific Railway has announced its intention of building north and south through the city. In connection with the railways, mention should be made of the bridge built across the Belly River by the Canadian Pacific Railway. This bridge is just over a mile in length and is 307 ft. high, being erected at a cost of about \$1,500,000.

In the centre of the business portion of the city is Galt Park, 10 acres in extent, traversed by broad cement walks, laid out with flower-beds and shrubs, and studded with ornamental electric lamps. On all sides are seen substantial business blocks used as offices, stores, or for some branch of the public service. The Hudson's Bay Company has a large store in Lethbridge, and banking facilities are provided by eight chartered banks, all of which are housed in premises that rank among the foremost buildings in the city. The principal streets are traversed by electric trams, which are owned by the municipality and link up the various suburbs and residential quarters. The tramway system was being very largely extended during 1913.

In the east end of the city is Henderson Park, a large piece of ground comprising 340 acres and including a 70-acre lake. This park was acquired with the proceeds of the sale of the Agricultural Society's fair grounds, which were subdivided and sold for about \$100,000. By this means Lethbridge has an excellent playground which costs the ratepayers practically nothing.

In educational affairs Lethbridge is no less progressive than other Canadian cities, and boasts four large public schools, two kindergarten establishments, a high school, a Roman Catholic school, and a school devoted to manual training. The city is equally well endowed with places of worship, its 13 churches including two Methodist, two Presbyterian, two Baptist, three Anglican, one Roman Catholic, one Lutheran, one Christian Scientist, and one Latter-Day Saint. The Roman Catholic denomination has also taken preliminary steps towards building a cathedral, which is to cost more than \$100,000, exclusive of the site.

Macleod.—The town of Macleod, with a population slightly under 3,000, is situated in the south-west corner of Alberta at the junction of the Crow's Nest Pass branch of the Canadian Pacific Railway with a branch running north to Calgary and Edmonton.

A typical prairie town, almost entirely devoid of trees, it must be admitted that Macleod does not at once make a favourable impression on the new arrival. Separating the station from a rather mean quarter of the town is a wide piece of waste ground, which, if properly laid out, would make a pleasing approach to the town, but which at present is far from attractive.

On arriving in the main business quarter, however, more pleasing features are at once revealed. The streets are laid out on generous lines, the main thoroughfares being flanked with stone pavements and lined with buildings of substantial proportions. Not a few of the stores and offices are built out of stone, quarried in the Macleod district—a local by-law prohibits the erection of wooden buildings in the centre of the city. As usual, the banks, of which there are four, provide the most important commercial buildings, while the public buildings include the schools, churches, hospitals, and town hall. The latter, however, is quite inadequate, and a new building is under construction. This will cost about \$100,000, and has been planned on artistic and generous lines. The new hospital, a \$40,000 building situated on the outskirts of the town, is one of the best of its kind in South-Western Alberta, while the combined public and high school accommodates 400 children and employs a teaching staff of 12. The religious needs of the community are

provided for by four churches, owned by the Anglican, Roman Catholic, Methodist, and Presbyterian denominations. The town owns its own electric light plant, water supply, and sewerage system, the water being obtained from the Old Man River, which flows through the town. Gas is brought from Bow Island and sold for manufacturing purposes at 20 cents per 1,000 cubic feet.

Situated in the middle of the open prairie, Macleod has not yet seen the necessity of establishing parks beyond a small athletic ground. Like nearly all Canadian towns, however, it has its Exhibition grounds, which are the scene of various shows and exhibitions during the summer months.

The surrounding country is primarily a grain-growing district, and may be ranked among the best in the province. The land is level and rolling, the soil being of the black loam variety so common in Western Canada, with a clay subsoil. Irrigation is not necessary, the local rainfall being sufficient for the porous soil. There is no scrub or bush, a distinct advantage from the grain grower's point of view, however desirable trees may be as scenery. Mixed farming is growing in favour, and not a few horses and sheep are raised.

Both to the east and west of Macleod are large deposits of bituminous and anthracite coal, while good clay exists in the vicinity of the town. The latter material has not been developed, all bricks for building purposes being shipped from other points.

Taber.—Taber is an important town in the Crow's Nest Pass branch of the Canadian Pacific Railway, and is situated 32 miles east of Lethbridge.

The town has sprung up during the past eight or nine years, only a water tank belonging to the railway company marking its site in 1904. Even in 1908 the population only amounted to about 500. It doubled during the next 12 months, however, and now stands at nearly 3,000.

Formerly a farming centre only, Taber is now prominent as a coal-mining town, and several mines are being worked in the neighbourhood. One large company alone employs 300 men and produces some hundreds of tons of coal daily, while other companies are preparing to commence operations. The town has by no means lost its agricultural prominence, however. It was

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originally the centre of a ranching country, but here, as elsewhere in Western Canada, the grain grower has ousted the cattle rancher, and the grazing grounds have been converted into fertile wheat-fields. The farmers are also taking up the more permanent branches of agriculture, such as mixed farming, market gardening, and dairy farming.

By no stretch of imagination can the town itself be described as attractive, even the banks of the Belly River being nearly devoid of timber and shrubs. The streets, though wide, are unpaved and become exceedingly muddy after a heavy rainfall. Many of the stores are wooden buildings, though several large brick structures have recently been erected. The largest buildings devoted to commercial purposes are the hotels. Of the public buildings the schools are, as usual, well to the front, the largest of them having cost as much as \$70,000. There are three schools altogether and four churches. Banking facilities are provided by three banks, and three elevators afford storage for the grain crops of the district. Water is obtained from the Belly River, the rate to consumers being \$20 per annum. The town has its own electric light plant and the telephone system is controlled by the Provincial Government. The telephone is far more widely used in Western Canada than in England, probably owing to its comparative cheapness, the rates in Taber being \$28 per annum for business houses and \$18 per annum for residences.

Olds.—Lying 58 miles north of Calgary and 134 miles south of Edmonton, the town of Olds is situated in the centre of one of the more important agricultural districts of Alberta, and one that is likely to increase in importance with the increased attention that is being given to diversified farming.

The town was incorporated in 1905, and has progressed steadily though not speedily ever since. It first came into existence with the advent of the Calgary and Edmonton branch of the Canadian Pacific Railway, about 21 years ago, and has now a population of about 1,400. Its activities are almost entirely confined to supplying the demands of the neighbouring farmers for the commodities of every-day life, the business establishments comprising branches of the Canadian Bank of Commerce and the Merchants Bank of Canada, a number of well-stocked retail stores, a

few warehouses containing agricultural implements, and one or two others.

Olds is not situated in a well-wooded part of Alberta, although the citizens, by systematic tree planting, have added to the attractiveness of their town. Immediately outside the station the Canadian Pacific Railway Company has laid out a garden with trees, shrubs, and flowers, the whole giving a pleasing effect. The town is not yet supplied with a water system or an electric light plant, but it is not likely that it will long remain without them, since the Little Red River can readily be made to supply the requisite power.

Educational facilities are good, a public and a high school both being situated in the town, while the Anglican, Methodist, Presbyterian, Baptist, and Roman Catholic bodies have erected suitable churches and chapels.

Cardston.—In South-West Alberta, not many miles north of the International boundary line and almost in the shadow of the Rocky Mountains, is Cardston, a town of exceptional interest, inasmuch as it was founded by members of the Church of Latter-Day Saints, and is now the centre of a Mormon colony, which is rapidly increasing in numbers.

It was in September, 1886, that a number of Mormons from the State of Utah arrived at the site of the present town of Cardston in search of a home, and decided that here was the place best suited to their purpose. Returning to Utah, they came back the following year and laid the foundations of Cardston. In 1888 the community consisted of about 90 people. With no railway and being over 50 miles from Lethbridge, the nearest town, these pioneers of South-Western Alberta were hard put to it to make a living, and it was only by the exercise of the strictest economy and unflagging energy that they managed to exist. To-day, however, they form a prosperous community, and have won the reputation of being among the best of the colonists in Alberta.

Cardston is now the terminus of a branch line of the Pacific Railway, and has a population verging upon 2,000 people. It has adopted a progressive policy in the establishment of public utilities, and has installed an electric light plant at a cost of \$40,000, and a gravity water system at a cost of \$30,000. Water is obtained from St. Mary's River. There are two large schools and three churches, while three chartered

banks and one private one provide adequate banking facilities.

The surrounding country is admirably suited for grain growing, dairy farming, and the cultivation of forage crops. It may be mentioned that at the Dry Farming Congress and Exposition in 1909 Cardston won the District Exhibit Trophy for the best grasses and fodder crops, a success which was repeated during the two following years.

Coleman.—Incorporated as a town in 1910, Coleman now has a population of nearly 3,000.

The town is situated on the Crow's Nest Pass branch of the Canadian Pacific Railway, 8½ miles east of the British Columbia boundary, and in the centre of the most productive coal-bearing region in Western Canada. It stands at an altitude of 4,250 ft., in the midst of the lovely scenery which is so characteristic a feature of the Rocky Mountains.

The most important industry is coal-mining, and practically the entire town is directly or indirectly dependent upon the mineral wealth of the district. One large company alone employs 700 men, and most of the 2,500 tons of freight that leaves the town each day is comprised of coal. Much of the coal mined in the district is taken by the Canadian Pacific Railway for use on their trains and the remainder is shipped to every part of Alberta.

Although Coleman only came into existence in 1904 it has been provided with modern public utilities for the past eight years. An electric light plant, telephone, and water systems were installed in 1905, the water being obtained from Nez Passe Creek, a mountain stream of exceptional purity. In the year following a miners' hospital was erected. This institution is supported by the Miners' Union and miners are treated free of charge. The streets of Coleman are graded and well gravelled, a large school employing a staff of eight teachers has been built, whilst amongst the more important buildings to be found within the town limits are a branch of the Canadian Bank of Commerce, two hotels, and three churches. The town possesses a well-organized fire department, which has successfully coped with more than one dangerous outbreak. It is claimed by the town that the success of the fire department has resulted in a phenomenally low rate of fire insurance.



1. GALT GARDENS, LETHBRIDGE. 2. FIFTH STREET, SOUTH LETHBRIDGE.
3. AN OFFICE BUILDING OF MODERN CONSTRUCTION, LETHBRIDGE. 4. PUBLIC LIBRARY, CALGARY.

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In addition to its wonderful deposits of coal, Coleman is also rich in timber, two mills being established in the vicinity, of which the output amounts to about 10,000,000 ft. per annum. There are also some clay deposits, but these are at present undeveloped.

One of the most beautiful spots for many miles round is constituted by Flumerfelt Park, comprising 40 acres. Mention should also be made of the Crow's Nest Lake, situated about 60 miles to the west of Coleman, from which town it can be reached by motor or horse-drawn vehicles. The high mountains surrounding this stretch of water make it an ideal resting-spot for tourists.

Banff.—The names of few Canadian towns are more familiar to English ears than that of Banff. This spot, so beloved of the tourist, is situated in the heart of the Rockies, about 82 miles west of Calgary on the main line of the Canadian Pacific Railway. The population of Banff stands at about 1,200, and the tourist season brings with it visitors from Europe and all parts of the American continent. The famous Rocky Mountain Park, containing 5,000 square miles, begins here.

The town is equipped with an electric light plant and a water system, the minimum rate for five lights with meter being \$1.50 per month and the water rate being about \$9.50 per annum. A large school is divided into three departments—junior, intermediate, and senior—the latter corresponding to a high school. There is a good semi-private hospital and four churches owned by the Anglican, Roman Catholic, Presbyterian, and Methodist denominations. Banking facilities are provided by the Imperial Bank of Canada, and tourists find ample accommodation at the six hotels, all of which, with the exception of that owned by the Canadian Pacific Railway, are open throughout the entire year.

Banff well deserves its reputation, and there can be little doubt that as the years go by its scenic beauty will make an increasing appeal to those in search of rest.

Bankhead, a town of 800 inhabitants, is situated on the main line of the Canadian Pacific Railway, 80 miles west of Calgary. It is mainly important as a coal-mining town, most of the male population being employed in the local mines. The town

has an electric light plant and the principal buildings include a hotel and a Roman Catholic church.

Bassano, with a population of 1,000, is situated on the main line of the Canadian Pacific Railway, 83 miles east of Calgary. Its chief importance lies in its selection by the railway company as the site of a tremendous irrigation dam, which is being built at a cost of \$7,000,000 and is designed to serve an area of 3,000,000 acres. The most prominent buildings are the three hotels, the public school, and the Anglican and Presbyterian churches. Three banks have established branches in the town, namely, the Union Bank of Canada, the Canadian Bank of Commerce, and the Bank of Quebec.

Blairmore, a town with 2,000 inhabitants, is situated on the Crow's Nest Pass branch of the Canadian Pacific Railway, 88 miles west of Lethbridge. Several coal mines are being worked in the vicinity and the town is a distributing centre for the eastern portion of the Crow's Nest Pass district.

The town is equipped with an electric light plant and a water system, but has only one school, which is barely sufficient for its population. Electric light is sold to consumers at the flat rate of 50 cents a month for 16 candle-power, while water is supplied at \$1.25 for four rooms and \$1.50 for five or six rooms. The Union Bank of Canada and the Royal Bank of Canada have both opened branches in the town, and three hotels cater for the travelling public. Churches have been erected by the Baptist, Roman Catholic, Presbyterian, and Anglican denominations. There is an abundance of timber in the neighbourhood as well as a supply of building material.

Canmore, a town of 1,000 people, is situated on the main line of the Canadian Pacific Railway, 67 miles west of Calgary. Two coal mines are already being worked and a third, controlled by English and Welsh capital, will be operated very shortly. At present the town has no electric light or water systems, and the only buildings of importance are the hospital, the public school, and the three churches occupied respectively by the Roman Catholic, Presbyterian, and Anglican denominations. There is also a hotel and a boarding-house.

Carstairs is a small town with only 400 inhabitants and is situated on the Calgary

to Edmonton branch of the Canadian Pacific Railway, 41 miles north of the former place. Coal mining is carried on both to the east and west of the town, and there are large deposits of clay suitable for pottery. Within the town are found branches of the Union Bank and of the Merchants Bank of Canada, and a hotel, a school, four elevators, and Presbyterian, Methodist, and Roman Catholic churches.

Clareholm, with a population of about 1,000, is situated on the Calgary-Macleod branch of the Canadian Pacific Railway, and is 82 miles south of the former place. It is the centre of a grain-growing and mixed farming district, while stock ranching is still carried on in the vicinity. The town is equipped with a water system and an electric light plant, while the Dominion Government has established a demonstration farm close by. Banking facilities are provided by the Canadian Bank of Commerce, the Union Bank of Canada, and the Dominion Bank of Canada, other buildings including a public school, three hotels, and four elevators. Churches have been built by the members of the Anglican, Roman Catholic, Methodist, and Presbyterian denominations.

Cochrane, a small town with 500 inhabitants, is situated on the main line of the Canadian Pacific Railway, 23 miles west of Calgary. The principal buildings include a school, two hotels, and a branch of the Union Bank of Canada. Three churches have been built by the Presbyterian, Anglican, and Roman Catholic denominations. Farming is the main industry, although coal is also found in the neighbourhood.

Diamond City, with a population of 700, is situated on a short private railway, 12 miles north of Lethbridge. The town is the centre of a good farming district, but is better known as the home of the Diamond Coal Company, who own a large mine in the neighbourhood. An electric light plant and a water system have been installed, and the Molson's Bank has established itself in the town. The principal buildings include a school, a hotel, two elevators, and two churches.

Didsbury, a town with a population of 800, is situated on the Calgary to Edmonton branch of the Canadian Pacific Railway, 48 miles north of the former place. It is the centre of a fertile farming country where both grain growing and

SOUTHERN ALBERTA

mixed farming are practised. The town has an electric light plant, and among its principal buildings may be included the high and public schools, the two hotels, four elevators, and six churches. The Union Bank of Canada and the Royal Bank of Canada have both opened branch establishments here.

Frank, with a population of 850, is situated on the Crow's Nest branch of the Canadian Pacific Railway, 86 miles west of Lethbridge, and is an important coal-mining town. One large company alone employs 300 men. An electric light plant and a water system have been installed, and there are five hotels, one of which is equipped with sulphur baths and used as a sanatorium. Among the more important buildings may be mentioned the public school and the Roman Catholic and Methodist churches. The Union Bank of Canada has established a branch in the town.

Gleichen, a small town with a population of 600, is situated on the main line of the Canadian Pacific Railway, 55 miles east of Calgary. Despite its comparatively sparse population, it is well equipped with public utilities, both a waterworks and sewerage system having been installed. The more important buildings include branches of the Canadian Bank of Commerce and the Royal Bank of Canada, two hotels, three elevators, and three churches.

Granum, a small town of 300 inhabitants, is situated on the Calgary-Macleod branch of the Canadian Pacific Railway, 93 miles south of Calgary. It is surrounded by a fertile grain-growing district, and is provided with five elevators with a capacity of 175,000 bushels. The principal buildings consist of the school, the hotel, and four churches.

High River, with a population of 1,200, is situated on the Calgary-Macleod branch of the Canadian Pacific Railway, 40 miles south of the former place. The town is the centre of an important grain-growing and mixed farming district, and is well equipped with public utilities of all kinds, including waterworks, sewerage systems, electric light plant, telephone, and a power station. Among the more important buildings may be mentioned the town hall, the four hotels, the three schools, and five churches. No less than five chartered banks have deemed it profitable to open branch establishments in High River, these consisting of the Union Bank of Canada,

the Canadian Bank of Commerce, the Northern Crown Bank, the Dominion Bank, and the Bank of Montreal.

The town is a well-known sporting centre and supports both a polo and a shooting club.

Irvine, with a population of 450, is situated on the main line of the Canadian Pacific Railway, 22 miles east of Medicine Hat. It is surrounded by a good wheat-growing district, and is equipped with two elevators, two hotels, a school, three churches, and a branch of the Union Bank of Canada.

A gas well is being bored, and shows signs of being successful.

Magrath, with a population of about 1,200, is situated on the Stirling to Cardston branch of the Canadian Pacific Railway, and is 37 miles by rail from Lethbridge. The town is the centre of a very fertile wheat district and is prominent also as a horse-breeding centre. It has been largely developed by the Mormons, who settled in the neighbourhood in the late eighties, and is a local option town. The principal buildings include the school, the hotel, and the churches owned by the Presbyterians and members of the church of the Latter-Day Saints. Both the Bank of Montreal and the Royal Bank of Canada have opened branch establishments in the town.

Nanton, with a population of 1,000, is situated on the Calgary to Macleod branch of the Canadian Pacific Railway, 57 miles south of the former place. It is the centre of a prosperous wheat-growing and ranching district, and five elevators are necessary for the storage of its crops. Among the more important buildings may be mentioned the large public school, the two hotels, and the five churches. The Canadian Bank of Commerce and the Bank of Hamilton have established branches in the town, and an electric light plant has been installed.

Okotoks, which has now a population of 900, is situated on the Calgary-Macleod branch of the Canadian Pacific Railway, 28 miles south of the former place. Cattle-ranching is still an important industry in the neighbouring foothills, though wheat growing has largely taken its place in other parts of the district. There is an abundance of brick-clay in the vicinity, and natural gas has also been discovered and utilized, being sold to residents at 30 cents per 1,000 cubic feet, and to manufacturers at

20 cents per 1,000 cubic feet. The town also has an electric light plant. The principal buildings include a large public school, to which is attached a high school class. Three hotels, two elevators, and branches of the Merchants Bank of Canada and the Union Bank of Canada are also to be found in the town. Five churches are owned by the Anglican, Presbyterian, Roman Catholic, Methodist, and Baptist denominations.

Pincher Creek is an important town of 1,400 people situated on the Crow's Nest Pass branch of the Canadian Pacific Railway, 61 miles west of Lethbridge. The principal industry is coal mining, more than 8,000 miners being employed within 60 miles. The town is equipped with an electric light plant and a gravity water system, electric light being supplied to consumers at 17½ cents, less 20 per cent., per kilowatt hour, and water at \$1.25 per month.

A memorial hospital has been erected, containing 12 beds and nine private rooms. Other important buildings include a public school, a high school and a convent, three hotels, the Hudson's Bay Company's store, and branches of the Canadian Bank of Commerce and the Union Bank of Canada. There are also five churches, which have been built by the members of the Presbyterian, Baptist, Methodist, Roman Catholic, and Anglican denominations.

Raymond, with 1,600 inhabitants, is situated on the Stirling-Cardston branch of the Canadian Pacific Railway, and is 26 miles by rail from Lethbridge. It is a fertile grain-growing and mixed farming district. The town has a water system and an abundance of pure drinking water; an electric light plant; an exceptionally fine public school, which was erected at a cost of \$45,000; a private academy; and two churches, belonging to the Presbyterians and the Church of the Latter-Day Saints.

Other buildings include two hotels, two elevators, and a branch of the Bank of Montreal.

Slavelly, a small town with 400 inhabitants, is situated on the Calgary-Macleod branch of the Canadian Pacific Railway, 72 miles south of the former place. Among its more important buildings may be mentioned the public school, the hotel, and three elevators. Both the Canadian Bank of Commerce and the Bank of Hamilton have opened branch estab-

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THE PRAIRIE PROVINCES OF CANADA

lishments in the town, and churches have been built by the Roman Catholic, Presbyterian, Methodist, and Anglican denominations.



ALBERTA CLAY PRODUCTS COMPANY, LTD.

The Alberta Clay Products Company, Ltd., of Medicine Hat, undertakes a very extensive business in the manufacture of sewer pipes, hollow building tiles, drain tiles, and all classes of hollow tile fire-proofing and brick of the dry-press variety.

The plant of the company covers 12 acres, and consists of drying floors covering 3 acres, two brick presses with a capacity of 80,000 per day, and a sewer pipe press with a capacity of 200 tons per day. Kilns owned by the company have a capacity of 2,500,000 of bricks and 2,300 tons of hollow ware and sewer pipe.

The clay pit from which raw material is obtained is situated about 10 miles from the plant. It is 320 acres in extent. This pit is estimated to contain 20,000,000 tons of clay.

The products of the company are marketed chiefly between Winnipeg and Banff.

Whilst the company is at present in a position to supply all demands made upon it, it is announced that another factory will be erected within the next two or three years to meet all requirements of the trade.

The company was incorporated in 1909, with a capital of \$500,000. At the present moment the capital stands at \$700,000, of which \$630,000 is fully paid.

About 200 hands are employed.

The officers of the company are: President, Mr. James Campbell; vice-president, Mr. John Dixon; secretary, Mr. E. M. Lundien; treasurer, Mr. H. Yuill; and general manager, Mr. R. P. Stewart.



THE ALBERTA FOUNDRY AND MACHINE COMPANY, LTD.

The Alberta Foundry and Machine Company, of Medicine Hat, was incorporated in September, 1911, with a capital of \$50,000, a figure that has since been increased to \$100,000, of which \$80,000 has been paid up.

In addition to manufacturing all kinds of castings for building, mining, and

mill machinery, the company produces forgings of all descriptions and conducts a general machine shop trade. Not the least important part of the business is that concerned with the repair of farming implements, traction engines, and automobiles.

The plant covers an area of 120 by 120 ft. and consists of a foundry, machine shop, forge, and pattern shop. The machine shop contains five lathes (the largest of which will swing a piece 8 ft. in diameter and the longest a piece 32 ft. in length), a planer which will take a piece 36 by 36 in. by 12 ft., three modern drills (vertical and radial), a bolt machine, shaper, power saw and shear. Gas and electric power are used, the former being supplied free of cost by the city.

Grey iron castings of various descriptions are manufactured in the foundry, the weight running from 3 oz. to 3 tons. Both here and in the machine shop overhead travelling cranes are used for moving molten iron, castings, and other materials.

Sixty men are employed in these shops. The pattern shop, which employs six men in the manufacture of the patterns, is well equipped and fully modern.

With the storage yards the plant at present in use occupies 1½ acres. Large as are the works at the present moment, however, provision has been made for future extension, four acres adjacent to the plant being owned by the company and held for future development.

It is anticipated that within a few years the whole of this area will be occupied.

The operations of the company extend throughout the province of Alberta and the western part of Saskatchewan, shipments being made to points from Indian Head to Edmonton. All the castings used by the Corporation of Medicine Hat and a number of the adjoining towns are made by the firm.

Mr. H. C. Yuill is president of the company, Mr. V. W. Parrish vice-president, and Mr. J. E. Davies secretary-treasurer and general manager.



ALBERTA LINSEED OIL MILLING COMPANY, LTD.

The Alberta Linseed Oil Milling Company, Ltd., has established its headquarters in Medicine Hat, a town to which a large

number of manufacturers are turning their attention. The capital of the company is fixed at \$100,000 and has been fully paid up. The goods manufactured consist of linseed oil and by-products, such as cattle cake, for which the demand is very large. These goods are marketed in the Prairie Provinces, British Columbia, and the United States, in which country the company has competed successfully against British manufacturers. A large elevator, capable of holding 35,000 bushels, is also maintained.

The president is Mr. John McNeely, the vice-president is Mr. H. C. Yuill, and the secretary-treasurer, Mr. William McNeely. The directorate comprises Messrs. D. Kerr and Joseph Vandry, of Victoria, B.C., and Mr. Nicholas Bawlf, of Winnipeg.



THE ALLIANCE INVESTMENT COMPANY (CANADA), LTD.

Among the many investment companies that have sprung into being in Canada during the last decade, the Alliance Investment Company (Canada), Ltd., takes a prominent position. Established at Calgary in 1906, it commenced operations with a capital of \$50,000, which in 1907 was increased to \$100,000 and in 1910 further increased to \$1,000,000. Half of this amount has been paid up.

At its inception the company undertook both the sale of lands which it owned or controlled and the sale of lands on a commission basis. With the increase in its capital, however, it was enabled to dispense very largely with the latter branch of its business, and to offer its clients only such property as it owns or controls absolutely. Sales on a commission basis are still undertaken, but only on behalf of those clients who are anxious to sell land purchased through the firm. This branch is handled by a special sales department. The company has also formed a building department which has grown to large proportions. The demand for good houses is very general throughout the West, but perhaps in no town is it so acute as in Calgary, and in erecting a number of houses on its own subdivisions the company is supplying a badly-felt want and also very materially hastening the development of its various properties. While the company's attention is naturally centred on Calgary, it has also acquired holdings in other Western cities,



ALBERTA FOUNDRY AND MACHINE COMPANY, LTD., MEDICINE HAT.

1. EXTERIOR OF FOUNDRY.

2. MACHINE SHOP.

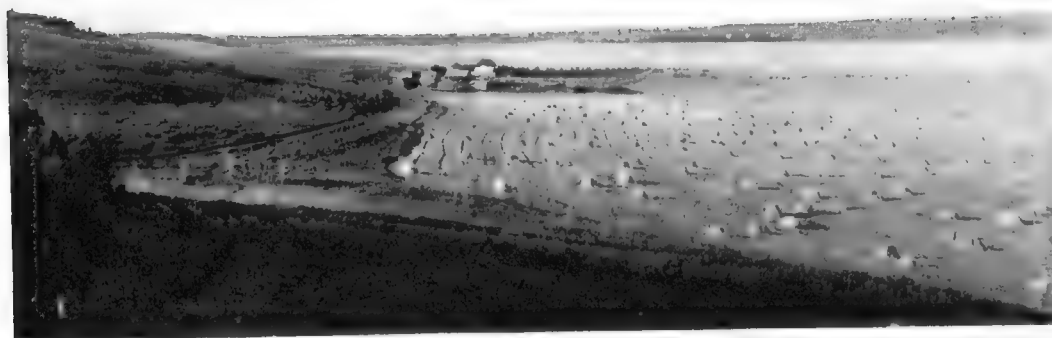
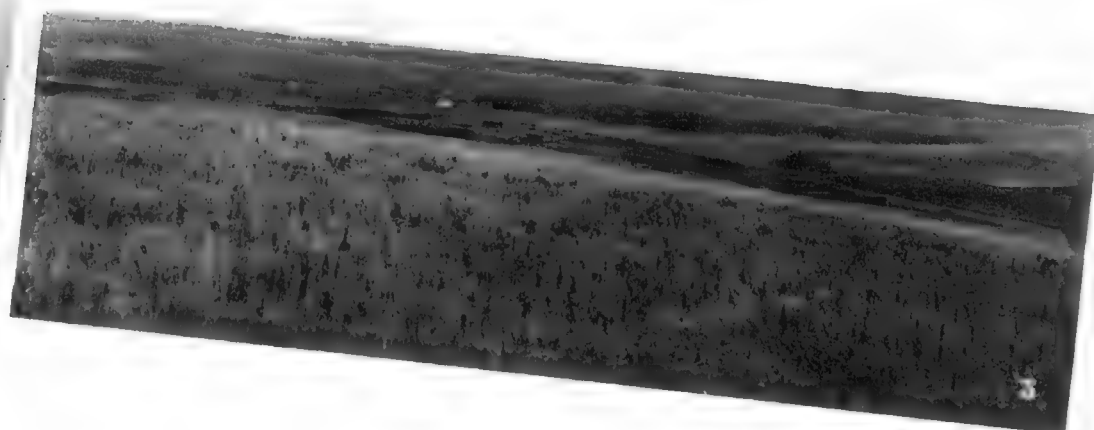
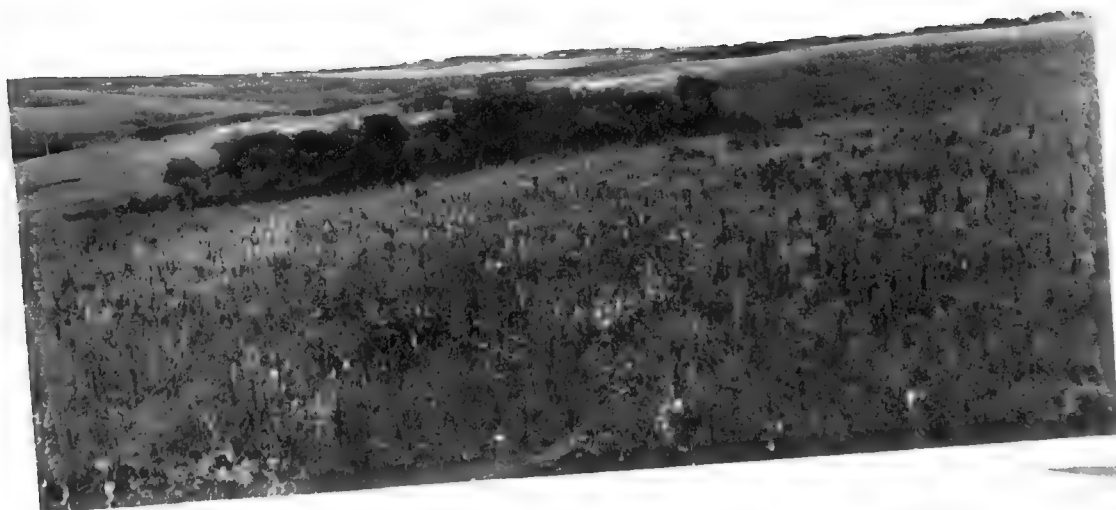
3. PATTERN SHOP.



ALLIANCE INVESTMENT COMPANY (CANADA), LTD., CALGARY.

1. CALGARY'S BUSINESS AND RESIDENTIAL DISTRICT FROM CRESCENT HEIGHTS—PANORAMA.

2. CALGARY FROM MOUNT ROYAL—PANORAMA.



ASTLEY AND SHACKLE, LTD., CALGARY.

1. GENERAL VIEW, BOTWELL RANCH, NEAR CALGARY.

2. POPLAR GROVE SUBDIVISION.

3. ELBOW VALLEY AND SARCEE RESERVE.

THE PRAIRIE PROVINCES OF CANADA

of which Regina is perhaps the most important.

In 1908 the company commenced to advertise in England the opportunities of the Canadian West, and to-day many of its clients are to be found in Great Britain. Offices have been established in Westminster, London, and in Dublin, Ireland; the affairs of the company in Eastern Canada are looked after by a Toronto house.

The Canadian board of directors consists of three prominent business men of Calgary in the persons of Mr. Malcolm E. Davis, the managing director, Mr. Hugh A. Maclean, president, and Mr. L. F. McCausland, who is also the secretary-treasurer. In Great Britain the local board comprises Mr. Benjamin H. Morgan, F.S.S., chairman, and Lieutenant-General Sir J. Bevan Edwards, K.C.M.G., K.C.B.



THE ANSLEY COAL MINES

Situated at Redcliffe, some 5 miles west of Medicine Hat, the Ansley Coal Mines, which are owned by Mr. William Ansley and his son, Mr. Harvey Ansley, promise to be very productive when mining operations are in full swing. The property consists of 1,380 acres, which is held by the owners as freehold, and the engineer reports that the seam which is being opened up is 7 ft. in thickness and will yield coal for several years. At present the daily output is limited to 70 tons, but an entirely new plant is being installed, and it is expected that the daily output will be thereby increased to 1,000 tons. Transportation is provided by means of a spur line connecting with the Canadian Pacific Railway Company's main line.

Messrs. Ansley also own the gas and oil rights on the property. Deposits of clay exist which recent tests have proved to be excellently adapted for cement purposes.



ASTLEY AND SHACKLE, LTD.

Messrs. Astley and Shackle, Ltd., in connection with their real estate business, act as agents for many British investors who are anxious to profit by the increase in values that is bound to follow the development of Western Canada. It is by no means uncommon for a farmer who has insufficient capital with which to purchase

property to rent land from the owner for a few years, and many proprietors in this way draw an excellent income from their land while waiting for its value to increase. Astley and Shackle, Ltd., also specialize in acreage in the near vicinity of growing cities, such as Calgary, Prince Albert, and in other towns in which investment assumes a rather more speculative aspect, and from which a proportionately larger profit may be hoped for in a comparatively short time. Most of the fortunes of Western Canada have been made by judicious speculation in real estate, and the history of Calgary will be found to contain the names of many who, within the past decade, have reached positions of affluence through fortunate investments in land.

Astley and Shackle, Ltd., was founded as a private firm in 1904 by Mr. William Astley, a native of Derby, England, where he filled the position of estate agent to Mr. William Dowry Lowe, of Locke Park, before temporary ill health caused him to seek the bracing airs of the Canadian prairies. In 1900 one of his clients, Mr. Frank Shackle, of Hayes, Middlesex, and a member of the London Stock Exchange, decided to join forces with Mr. Astley, and a third partner, Mr. J. L. Gibson, another Englishman, was admitted in 1910, the name of the firm remaining Astley and Shackle. At the end of 1911 the business was incorporated as a private limited company, composed of the three former partners only, with a capital of \$1,000,000, of which \$300,000 has been paid up. A general financial business is now conducted, investments of every description, including city property, farm lands, coal and mineral properties, and mortgages being undertaken. It may be mentioned, as showing how strongly capital is being attracted to the province of Alberta, that after five months' work as a limited company, \$99,221 was placed to reserve after all preliminary expenses, directors' fees, &c., had been met. Much of the money invested has come from people resident in the United Kingdom, where the company's interests are looked after by branch organizations in London and Glasgow.



BUCKLER, GILSON & CO.

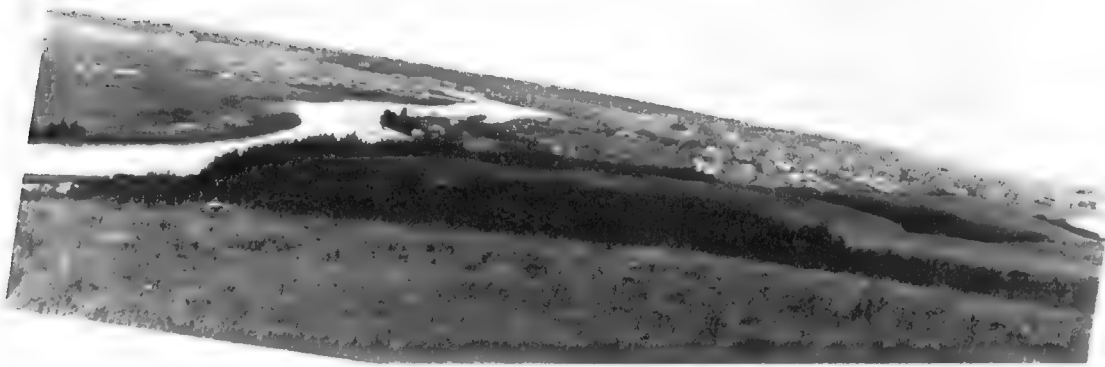
The intense specialization which is so marked a characteristic of the commerce of

the Old World is, except in a few isolated instances, a thing of the future in the rapidly growing cities and towns of Western Canada, where the opportunities for the investment of money and energy are so numerous and varied as to make the choice of a business a matter of some difficulty. Hence it is that many people are found who are engaged in following several distinct occupations, as in the case of Messrs. Buckler, Gilson & Co., who, while primarily and mainly conducting a large financial, estate, and brokerage business in Calgary, are also the proprietors of a creamery, general store, pool room and meat market at Black Diamond, in the neighbourhood of which town they operate a ranch of several thousand acres. The Black Diamond district, which lies some 30 miles to the south-west of Calgary, has found favour in the eyes of many farmers who like to seek relaxation from the routine of the farm in hunting the mountain sheep, goat, deer, and bear, with which the neighbouring hills abound, or in flogging the streams for trout.

Messrs. Buckler, Gilson & Co. are agents for this district for the Atlas Assurance Company of Great Britain and the Canada Life Assurance Company.

In their estate and financial business the firm undertake various classes of investment on behalf of their clients, mortgages, syndicate shares, and the discounting of agreements of sale being the more popular. Mortgages on farm lands and city property yield from 7 to 10 per cent., and as the amount of the loan is usually about 50 per cent. of the actual value of the land, the security of such an investment is amply assured, especially as the value of real estate in the neighbourhood of Calgary is so rapidly advancing. Even greater returns may be obtained from the purchasing of agreements of sale from original vendors who have sold their property on terms which allow the payments to be spread over lengthened periods. Usually such agreements can be purchased at 12 or 15 per cent. discount, and the ultimate profit is enhanced by the interest paid by the purchaser of the land on the outstanding balance.

Investments of a more speculative nature are afforded by the many syndicates which are formed for the purpose of purchasing land in large quantities and subdividing it into building lots for re-sale. Very large profits indeed can be made in this way, but the necessity for caution is strongly empha-



ASTLEY AND SHACKLE, LTD., CALGARY.

1. CALGARY AND BOW RIVER FROM THE WEST.

2 & 3. EAST CALGARY INDUSTRIAL SECTION FROM THE WEST—PANORAMA.



BUCKLER AND GILSON, CALGARY.

1. GENERAL VIEW OF RANCH, BLACK DIAMOND.

2. A FEW OF THE YOUNG STOCK, BLACK DIAMOND RANCH.

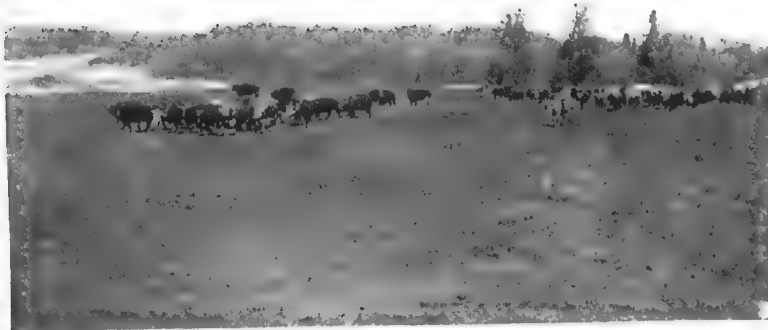


BUCKLER AND GILSON, CALGARY.

1. A VIEW ON SHEEP RIVER, NEAR BLACK DIAMOND RANCH.

2. BRANDING COLTS.

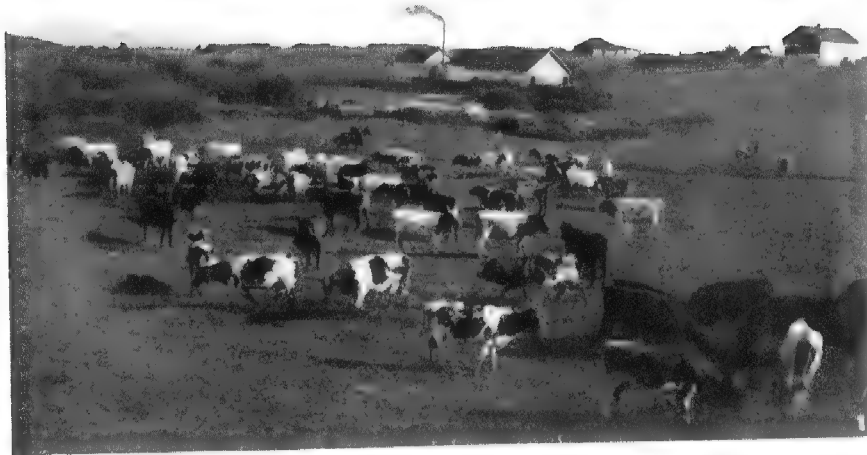
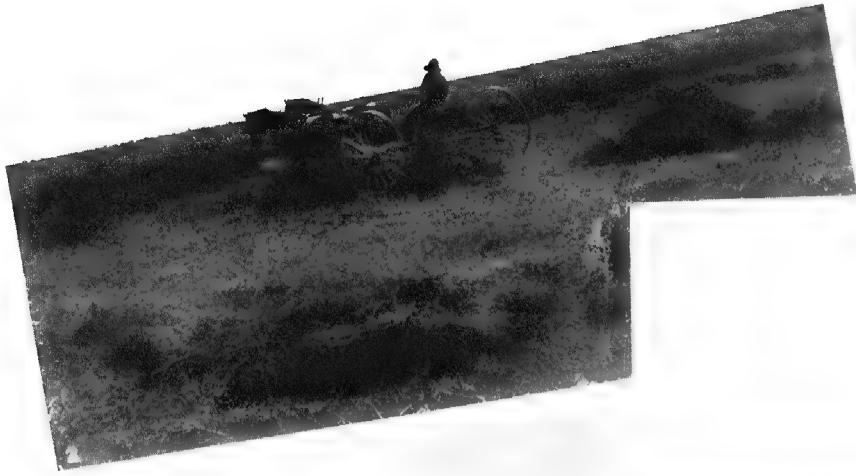
3. BRANDING COLT IN SQUEEZE GATE.



BUCKLER AND GILSON, CALGARY.

1 & 2. VIEWS ON SHEEP CREEK, NEAR BLACK DIAMOND.

3. DRIVING CATTLE.



BUCKLER AND GILSON, CALGARY.

1. DAIRY HERD (AYRSHIRES).

2. HARVESTING ALFALFA.

3. IRRIGATION DITCH, BLACK DIAMOND.

THE PRAIRIE PROVINCES OF CANADA

sized by Messrs. Buckler, Gilson & Co., as the land so subdivided is sometimes situated at such a distance from the centre of the city as to eliminate all chance of its ever being required for building purposes.

The demand for houses in the city of Calgary has hitherto far exceeded the supply, and many people have been forced to live in hotels or furnished rooms. House property shows a net return of from 15 to 20 per cent. per annum, and, provided judicious care be exercised in the choice of a site, the purchase of building plots within the city limits and the erection of houses thereon is an investment that should eventually show a larger return even than those mentioned in the preceding paragraphs.

Although only established at the beginning of 1911, the firm of Buckler, Gilson & Co. can show a record of remarkable progress. Much of this is due to the knowledge of local conditions possessed by Mr. E. W. Buckler, who, previous to the establishment of the business, had for nine years successfully operated a ranch and creamery. With his special knowledge of the district was combined the wide and varied experience of financial matters which Mr. F. G. Gilson had obtained, in various parts of the world, including England, South Africa, Ceylon, Australia, and Western Canada, in which countries he has lived during the past 17 years.

The business has also had the assistance, as manager, of Mr. J. H. Goodwin, of London, England, to whose business ability is due much of the success of the firm.

CALGARY SILICATE PRESSED BRICK COMPANY, LTD.

With an abundance of raw material close at hand and a growing market for its finished product, the Calgary Silicate Pressed Brick Company, Ltd., was founded in 1910, with an authorized capital of \$100,000, of which one half has been paid up. It devotes itself to the manufacture of silicate pressed brick, and makes a speciality of the handling of builders' supplies and plasterers' supplies. Its whole output is consumed locally.

The warehouse is situated on a private spur from the Canadian Pacific Railway main line. The plant, which is situated in the western part of Calgary, consists of a

sand drier, hopper, lime pulverizer, and hydrator, cooling bins for sand and lime, a brick press capable of exerting a pressure of 400 tons over a surface of four bricks, an automobile mixer in cellar and dome. Its capacity is 20,000 bricks per day of 10 hours, and 40 men are employed.

The president of the company is Mr. John Brackenridge, the vice-president being Mr. Thomas Martin, a citizen of Moose Jaw. Mr. G. Silvester, the secretary-treasurer and general manager, is a native of Woodstock, Ontario, and came West in 1883. Previous to his connection with his present company he was for three years interested in the Calgary Lime and Canal Company, Ltd., as president and general manager.

CANADA WEST COAL COMPANY, LTD.

The Canada West Coal Company, Ltd., which is engaged in developing a large coal area in the neighbourhood of Taber, Alberta, was founded in 1906. The executive offices of the company are in Minneapolis, U.S.A., and the capital is \$2,000,000 fully paid. At Taber the company owns 12,000 acres lying to the west of the town, and is one of the largest corporations of its kind in the province of Alberta. The original plant included a wooden tippie with a capacity of but 300 tons a day, but this has been superseded by the most modern machinery and the capacity increased to 2,000 tons per working day (eight hours).

The seam now being mined is 4½ ft. in thickness, and the coal is of a soft quality, smokeless, sootless, and excellently adapted to domestic purposes. A recent analysis reads: Fixed carbon, 52.70 per cent.; volatile combustible, 32.30 per cent.; moisture, 6.10 per cent.; sulphur, .88 per cent.; ash, 7.02 per cent.

The president of the company is Mr. O. A. Robertson, the vice-president being Mr. S. H. Bowman.

CANADIAN EQUIPMENT AND SUPPLY COMPANY, LTD.

This company, which has its headquarters at Calgary, was established in 1909 with a capital of \$200,000, and deals in every description of goods required by

builders, railway and general contractors. With two transcontinental railway lines in course of construction and a third ever adding to its vast system, the demand for machinery, implements, and material often severely taxes distributors and manufacturers. At the same time, throughout the West, buildings are being erected at an almost unprecedented rate, while many municipalities are hastening to install all manner of public utilities. It is not surprising, therefore, to find that the Canadian Equipment and Supply Company, Ltd., has some 500 customers in the province of Alberta alone, and has been obliged to establish a branch at Edmonton in order to cope more easily with the trade of Northern Alberta. Handling practically everything that is used by builders, railway and general contractors, the stock carried by the company includes a wide assortment of dump cars, steam shovels, steel rails and accessories, wire and manila rope, blocks and fittings, hoisting engines and derricks, concrete mixers, elevating graders and dump wagons, contractor's portable saws, centrifugal and power pumps, clam-shell and orange-peel buckets, rock crushers, wheel and drag scrapers, ploughs for railroad contractors, portable flare lights, wheelbarrows, steel pipe for all purposes, oil and gas well supplies, and every description of building material. About 300 miles of steel pipe have recently been supplied by the firm to a well-known gas, light, heat, and power company. This probably constitutes one of the largest individual orders ever placed in Canada for this commodity.

Naturally such a stock cannot be carried in any but the most commodious of buildings, and the firm are comfortably housed in a three-story structure, measuring 120 by 50 ft., from which their own motor trucks make daily deliveries.

Mr. T. A. McAuley, the president and general manager, is a native of Toronto, who came to Alberta in 1907; since then he has become a prominent member of business circles in Calgary and Edmonton. The Canadian Equipment and Supply Company, Ltd., owes much to his energy and business acumen. He is ably supported by Messrs. R. J. Mollan and J. Leslie Bell, who, as vice-president and secretary-treasurer respectively, take an active and important part in the affairs of the company.



CANADIAN EQUIPMENT AND SUPPLY COMPANY, LTD., CALGARY.

1. EXTERIOR OF OFFICES.

2. INTERIOR OF OFFICES.



CANADIAN ESTATES COMPANY, LTD., CALGARY.

1. EXTERIOR OF OFFICES.

2. PAVILION AND CAR ROUTE, TUXEDO PARK.

SOUTHERN ALBERTA

THE CANADIAN ESTATES COMPANY, LTD.

The Canadian Estates Company, Ltd., general investment agents and dealers in Western lands, was established in 1908 and has its headquarters in the city of Calgary, where the company has very large interests and is handling all classes of city and suburban property. The company also has large financial interests at Bassano, a growing town, situated in the heart of the Canadian Pacific Railway's irrigation district in Southern Alberta. The railway company is extending seven branch lines to serve this great distributing territory.

For both local and foreign clients the company has invested large sums of money, principally in city properties and farm lands of the West, and in each department of the business a competent staff of valuers safeguards the interests of the investor. The city properties department embraces vacant and improved building sites, warehouse and manufacturing sites, revenue-producing blocks, and similar properties.

The company claims to be the first in the West to undertake the development of a subdivision prior to its being placed upon the market. By virtue of a contract with the city of Calgary, the company constructed a tramway, installed water mains, erected a pavilion, and presented the city with a city park, consisting of about 10 acres, situated in the subdivision known as Tuxedo Park. This work was all undertaken in the autumn of 1911, at which time there was not a single inhabitant on the property, which consists of 320 acres. Twelve months later the census recorded the settlement on the property of nearly 300 families, or about 1,000 people, which well illustrates the rapidity with which the Western cities of Canada are developing. Tuxedo Park now possesses a public school, post office, churches, and other public buildings, while several shops cater for the residents. The rapid settlement of the property has naturally been followed by a large increase in the value of land and building lots. These were purchased in 1911 for \$250, and are now as high as \$800 each.

The company has done much to advertise the possibilities of the Canadian South-West, and through the manager of its publicity department, Mr. C. A. Owens, has issued a number of attractive free booklets which contain much information.

The president of the company, Mr.

Joseph Ruse, is an Englishman by birth who has lived in Canada since a very early age. His commercial experience extends over 35 years and has been gained in Canada, the United States, and Mexico. For the past six years he has resided in Calgary, and has occupied the position of president and general manager of the company since the date of its establishment.

Mr. H. O. Schultz, the secretary-treasurer, is a Western Canadian by birth, and is thoroughly acquainted with Western conditions. He has been well fitted, by a valuable experience as branch manager of the Bank of Montreal, to deal with the difficulties of his responsible position.



COMMONWEALTH TRUST COMPANY, LTD.

Among the new financial institutions that are constantly springing up in Western Canada, as a direct result of the unexampled prosperity of the country, the Commonwealth Trust Company, Ltd., of Calgary, should take a prominent place. Among its directors are found some of the leading business men of the city in which the company's offices are to be situated, while the Hon. Charles W. Fisher, Speaker in the Legislative Assembly of Alberta, occupies the presidential chair. In Major Duncan Stuart, a director of the Alberta Interurban Railway Company, Mr. J. R. Sutherland, late Dominion Land Agent, and Mr. George F. Tull, managing director of Niblock and Tull, Ltd., the company have three vice-presidents whose knowledge and experience are of inestimable value; while Mr. D. J. Young, president of Young and Kennedy, Ltd., will undertake the duties of managing director. The capital of the company, which is authorized at \$2,000,000, will be largely invested in loans on mortgage, on which the average rate of interest is 8 per cent., and as the country continues to develop and be peopled, the field for this class of investment will proportionately expand.



THE CROWN LUMBER COMPANY, LTD.

The Crown Lumber Company, Ltd., was originally incorporated in 1905 as Staples & Co., Ltd., and in that year business operations were commenced in Calgary, the officers at that time being Mr. Otis Staples, who occupied the presidential chair, Mr. C. W. Rowley, the vice-president,

and Mr. F. D. Becker, the secretary-treasurer. At the time of incorporation the capital stock was fixed at \$100,000, but two years later, in 1907, the business necessitated large extensions, and the capital was increased to \$500,000. In the same year the company's name was changed to the Crown Lumber Company, Ltd., Mr. Otis Staples retaining the presidency, but being assisted by two newcomers in the persons of Mr. J. W. Davidson, who took over the duties of vice-president and managing director, and Mr. B. Hammond, who succeeded Mr. Becker as secretary-treasurer. Since that date further changes have taken place; the capital of the company has reached \$700,000, Mr. Davidson has taken over presidential duties as successor to Mr. Staples, and Messrs. G. W. Harnwell and E. T. Chritchley fill the posts of secretary and treasurer respectively.

The company is engaged in the distribution of lumber and building materials among the towns of Alberta, and at various points operates 60 yards, at which are kept large stocks of lumber, shingles, cement, plaster, sash, doors, millwork, lime, bricks, tiles, sewer pipe, prepared roofings, building papers, fence posts, screen doors, and windows. In these yards suitable warehouses and lumber sheds have been erected, the highest grades of lumber being kept under cover and only the rougher variety left in well-ordered piles in the open yards.

The larger yards of the company are situated in such towns as Calgary, Strathmore, Gleichen, Bassano, Brooks, High River, Claresholm, Stettler, Sedgwick, and Hanna. The amount of lumber handled annually reaches no less a figure than 50,000,000 ft., besides 50,000,000 shingles and a similar quantity of lath. Practically all of this lumber is manufactured by the saw-mills of the mountain and coast regions of British Columbia, the different woods used being fir, pine, spruce, hemlock, and cedar. The other commodities carried by the yards are procured from various places. Lime is obtained in the Crow's Nest Pass district, cement at Calgary, plaster and paper from Eastern Canada, and sash, doors, and interior woodwork from the various sash and door factories in the cities. The average stock of lumber carried is 25,000,000 ft. and the total number of employees amounts to more than 150.

Mr. James W. Davidson, the president, has had a most interesting career in various quarters of the globe. Born at Austin,



CANADIAN ESTATES COMPANY, LTD., CALGARY.

1. VIEW LOOKING NORTH-WEST OVER TUXEDO PARK.

2. LOOKING NORTH FROM SOUTHERN BOUNDARY OVER TUXEDO PARK.

3. LOOKING SOUTH-WEST FROM EDMONTON TRAIL.



CROWN LUMBER COMPANY, LTD., CALGARY.

1. INTERIOR OF HEAD OFFICE, CALGARY.

2. WEST-END YARD, CALGARY.



CROWN LUMBER COMPANY, LTD., CALGARY.

1. EAST-END YARD, CALGARY.

2. YARD AT BASSANO.



CROWN LUMBER COMPANY, LTD., CALGARY.

1. YARD AT GLEICHEN.

2. YARD AT SEDGWICK.

THE PRAIRIE PROVINCES OF CANADA

Minnesota, U.S.A., he graduated from one of the leading American academies, and at the early age of 21 formed one of the Peary Arctic Expedition. Returning to the States, his taste for adventure led him to accept a position as war correspondent with the Chinese Army in 1895 and with the Japanese Army the year following. In the same year he joined the Batel Tobago exploring party, became a special correspondent in Formosa in 1897, and afterwards held several consular positions in the Orient. He is a Fellow of the Royal Geographical Society, the American Geographical Society, the Japanese Society, the London Arctic Society, and other similar organizations. He is also the author of several books on travel.

The secretary, Mr. George W. Harnwell, is a native of Kincardine, Bruce County, Ontario, and a graduate of Toronto University. For three years he was engaged in the teaching profession, afterwards entering commercial life and going to Sault Ste-Marie, where he served the Lake Superior Corporation for four years in the capacity of accountant. While there he qualified as a chartered accountant, and in 1906 entered the lumber business in Minneapolis. He threw in his lot with the Crown Lumber Company, Ltd., in 1911, becoming secretary the year following.

Mr. Ernest T. Chritchley was born in Cheltenham, England, and, like his colleague, Mr. Harnwell, engaged for a while in the teaching profession. In 1902 the lure of the West drew him to Alberta, and for three years he was ranching in the vicinity of Calgary. In 1905 he became connected with Staples & Co., Ltd., and rapidly passing through the junior positions of book-keeper, yard manager, head accountant, collector, and travelling auditor, became treasurer of the company and credit manager in 1912. He is the oldest employee of the company, and has seen it rise from an organization operating four yards to its present position as one of the leading distributing lumber companies in Western Canada.

CUSHING BROS., LTD.

In 1883, the date when Mr. William Henry Cushing, the founder of Cushing Bros., Ltd., arrived in Calgary, that city was mainly noteworthy as the camping ground of the Royal North-West Mounted Police, and but few people in the outside world had ever heard of its existence.

Sufficient buildings were required, however, to induce Mr. Cushing to devote his energies to the building trade, which he had learned during the years of his early manhood in Ontario, and for two years he was engaged solely in the erection of houses and stores. During that time he found himself subjected to considerable delays and inconveniences by the difficulty of obtaining finished material owing to poor transportation facilities, and in 1885, in company with a Mr. Jarrett, he found a solution to the problem by establishing a sash and door factory, the precursor to the present business of Cushing Bros., Ltd. The success of this, the first venture of its kind in Calgary, was assured almost from the commencement, and in 1903 incorporation as a limited company with a capital of about \$70,000 was a financial necessity. The next nine years practically saw the conversion of Calgary from a small prairie town to a thriving city, and it was only the logical sequel to this growth that the paid-up stock and reserves of Cushing Bros., Ltd., increased to over \$1,000,000, this figure representing part of the profits accruing from the company's operations and the increased value of its real estate, practically no new stock having been issued. Mr. Jarrett retired from the business in 1887, before its incorporation, and the board of directors now includes, in addition to Mr. W. H. Cushing, the president, Mr. Geo. Cushing, of Regina, vice-president; Mr. A. T. Cushing, of Edmonton, secretary; and Mr. R. Walton, of Fort Saskatchewan. The growth of other towns in the Western provinces was an incentive to the establishment of branch factories at Edmonton, Regina, and Saskatoon, while the company also has large lumber yards at Red Deer and Fort Saskatchewan. The chief factory at Calgary comprises a floor space of 80,000 sq. ft., and 10 acres of land, situated near the business centre of the city, are occupied with warehouses and a lumber yard. About 200 men are employed at Calgary, 130 at Edmonton, 85 at Regina, and 80 at Saskatoon, the company's pay roll for all its branches reaching, in 1911, a total of \$302,378.

Engrossed as he has always been in the development of his business, Mr. Cushing has still found time to devote himself to the public affairs of Calgary, and has attained a prominent position in the civic life of that city. An enthusiast on educational matters, he has for many years served as a member of the City School Board. As a member of

the Calgary Board of Trade he has found opportunities to do much for the enhancement of the city's trade, and during his association with the Governing Board of the Calgary General Hospital the efficiency of that institution has remarkably increased. In 1900 he was elected mayor of the city, fulfilling the duties of that exacting post with such success that, when the province of Alberta was accorded a separate autonomy in 1905, he was chosen Minister of Public Works, and now, as the senior Member of Parliament for Calgary, is rapidly eclipsing all his previous efforts towards ensuring the permanent welfare of the province.

DEPARTMENT OF NATURAL RESOURCES, CANADIAN PACIFIC RAILWAY

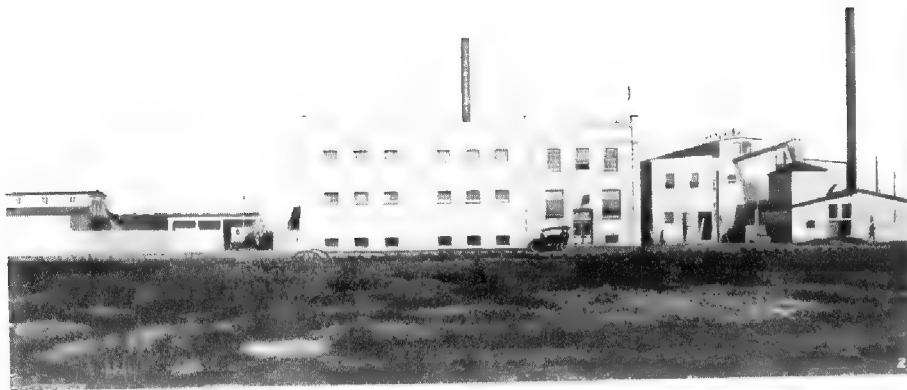
In disposing of the large acreage of farm land which it still holds, the Canadian Pacific Railway is endeavouring to act not only as a land selling agency but as a colonization agency. That is to say, the speculative element has been eliminated, and the land is now being sold to those who will develop and reside upon it. This principle is designed to appeal to the best class of land worker in North America, the British Isles, and Northern Europe; and special terms are offered likely to encourage the immigration of skilled agriculturists who may possess only moderate means.

Firstly: The period over which the purchase of the land is spread has been extended from 10 to 20 years, unpaid instalments bearing interest at the rate of 6 per cent. per annum.

Secondly: To approved married men with agricultural experience, the Canadian Pacific Railway offers a loan to the value of \$2,000 (also repayable in 20 years) to be expended under the supervision of the company in the erection of a house, barn, and other necessary buildings, the construction of fences and a well, and the breaking of a certain area.

Thirdly: The company will provide approved settlers with high-grade cattle, sheep, and hogs on a loan basis to the value of \$1,000.

This in effect is equivalent to a "hand-picking" process; the only type of land purchaser is the man who declares his intention of taking up residence and placing his land under cultivation, thereby becoming an important factor in the development of the West.



CUSHING BROS. COMPANY, LTD., CALGARY.

1. CALGARY YARD.

2. GENERAL VIEW, EXTERIOR OF PLANT, REGINA.

3. GENERAL VIEW, EXTERIOR OF PLANT, SASKATOON.

4. GENERAL VIEW OF TIMBER YARD, EDMONTON.

THE PRAIRIE PROVINCES OF CANADA

The Canadian Pacific Railway some three or four years ago inaugurated the well-known "Ready-made Farm" scheme. This was primarily designed for the benefit of the British yeoman farmer, who, although he wished to emigrate to Western Canada, was not disposed to undertake the pioneer work entailed in building a new home on the prairie. The newly-arrived settler finds prepared for him a house and barn, a well and pump installed, the farm fenced, and about 50 acres broken and seeded, so that virtually all that remains for him to do is to reap and thresh his first crop. The farms are sold at the price of raw land plus the actual cost of improvements. The ready-made farms are open to purchase by American as well as by British farmers, although the latter are given a certain priority. There are now 16 "colonies," of which 14 are in Alberta and two in Saskatchewan, and five colonies of ready-made fruit farms in British Columbia are also in course of preparation.

But having attracted the settler and placed him on the land, the company does not discontinue its kindly offices to him. Through many channels, but especially through its agricultural and animal industry branch, aid and advice are being gratuitously extended to Western Canada farmers. In its campaign for the advancement of agriculture, the company takes it as a fundamental principle that only a diversified, or so-called "mixed," system of farming will bring the Canadian prairies to their highest and most economical production. Every effort is therefore being made to turn the Western farmer from the one-crop "soil mining system" to methods involving the growing on every farm of fodders, grains, vegetables, roots, and live stock.

The company has established 12 demonstration farms in the Prairie Provinces for the purpose of proving that there is a greater cash return from a farm operated under mixed farming methods than from one operated on the one-crop system. Accounts are kept of all expenditure and receipts, and the managers of these farms are at all times willing and anxious to extend information to all who desire it.

The company, in furtherance of this principle, has instituted sundry competitions, and offers prizes reaching a total of approximately \$5,000. Prizes are awarded

for such matters as tree planting, alfalfa growing, and steer feeding. At the present time it has not been possible to extend the territory of competitions beyond the company's own lands, but it is hoped that the contests will be the forerunner of plans which will eventually cover the entire West. In another direction the agricultural branch has been instrumental in placing a large number of farmers with good seed grain for sale in touch with purchasers, enabling them in most cases to secure better prices than they might otherwise have done. In one instance a whole carload of barley was, through this assistance, sold to a firm of maltsters in Glasgow, Scotland.

In Manitoba and Alberta the company, in conjunction with the Provincial Departments of Agriculture, has run agricultural demonstration trains, carrying the best agricultural experts obtainable and exhibits of grains and live stock. These trains afford the farmer an opportunity, of which he is usually glad to avail himself, of a face-to-face talk with men who can advise him. Stops are made at all stations and instruction given to large audiences (who often drive in for the purpose from a considerable distance) in the newest agricultural methods.

In its irrigation blocks the company has established egg circles for marketing eggs on a co-operative basis. In order to encourage dairying and kindred operations it has, at several of its farms, installed creameries, which take all milk sent in by farmers in the tributary district, paying the highest cash price, and turning back the skim milk for feeding purposes. Last autumn, as a preliminary to wider operations of the same sort, cattle, sheep, and hogs were supplied in certain districts to farmers lacking money for the purchase of live stock. These were supplied at actual cost, payment being taken from the succeeding year's harvest. High-grade bulls for service were also placed at various points at a negligible charge.

Every year the company is increasing its railway mileage, improving and double-tracking existing lines and building new ones to serve new territory. As a concomitant to this extension, it is setting aside certain lands and creating town sites upon them. About 50 new town sites are each year opened up and placed on the market. While it is perhaps more difficult to prevent speculators from purchasing town lots than

agricultural lands, an attempt is made to sell only to the bona fide settler or resident. All town lots are sold according to list price and not by auction, and upon the original (and personal) application on the day of sale. No more than two lots in the business sections or three lots in the residential section of a new town site are allotted to any one person until after all applications have been exhausted. The only exceptions are lumber yards and hotels, for which more than two lots may be allotted, provided they are utilized for the stated purpose. Religious organizations are allotted two lots at the price of one, provided a church is built. At a recent sale the experiment was tried of allowing 25 per cent. discount (to be deducted from the final payment) on any lot in a special "rebate block," provided that a building worth \$1,000 was erected upon each lot within a period of 12 months from the date of the opening of the railway station for business; and this experiment will probably be repeated in the case of divisional and other big points.

In addition to this work, which is designed to promote the settlement of the Canadian West, the Department of Natural Resources also has under its care the extensive tie and timber and coal-mining industries of the Canadian Pacific Railway in the Western provinces. An industrial branch, associated with the Department of Natural Resources, is engaged in disseminating particulars of industrial openings in the Canadian West. This department also makes every effort to fill these openings satisfactorily.



O. G. DEVENISH & CO., LTD.

The firm of O. G. Devenish & Co. was founded in Calgary in 1903, a time that was particularly favourable to such an enterprise as that in which the firm was about to engage.

Many factories were in operation and still more in course of erection; the farming community was large, but still growing rapidly; and the promise of exceptional profits was attracting the attention of capitalists to a greater extent than ever. Engaging in a general real estate business and including in their operations the investment of clients' money in loans on mortgage, the firm prospered from the commencement, and their activities grew with the development of the city.



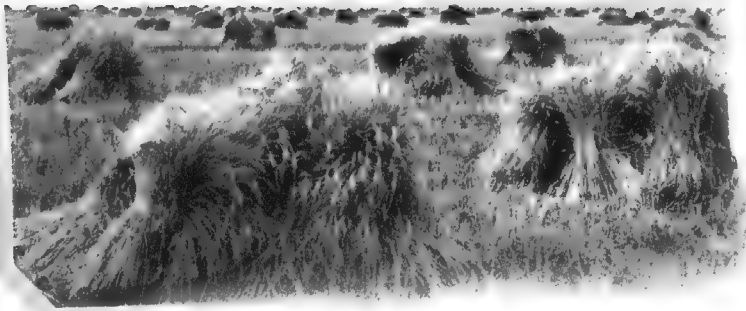
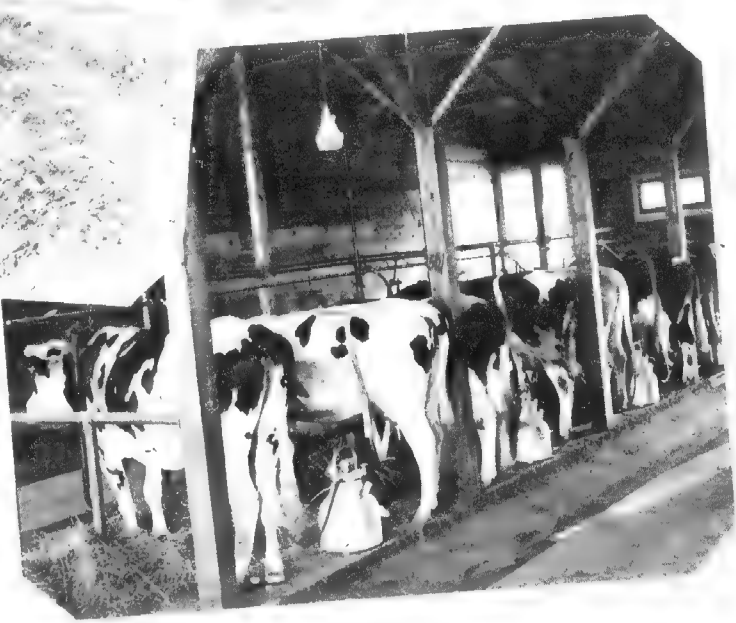
DEPARTMENT OF NATURAL RESOURCES, C.P.R., CALGARY.

1. DEMONSTRATION FARM.

2. IRRIGATION DITCH.

3. THRESHING IN SASKATCHEWAN.

4. ELEVATORS AT INDIAN HEAD, SASKATCHEWAN.



DEPARTMENT OF NATURAL RESOURCES, C.P.R., CALGARY.

1. HARVEST SCENE, MANITOBA.

2. MILKING BY MACHINERY.

7. CUTTING GRAIN WITH MODERN BINDER.

4. BASSANO DAM.



O. G. DEVENISH & CO., LTD., CALGARY.
DEVENISH APARTMENTS, SEVENTH AVENUE.

THE PRAIRIE PROVINCES OF CANADA

Although dealing largely in "inside" property, they also interested themselves in the development of residential suburbs and placed on the market such well-known subdivisions as Westmont, Capitol Hill, and Manchester. The demand for well situated houses in Calgary is far greater than the supply, owing to the rapid growth in population. This difficulty has been largely met by the erection of apartment houses, one of which, the Devenish Apartments, is owned by Mr. O. G. Devenish. This building measures 250 by 60 ft., has three stories and a basement, providing a floor space of approximately 60,000 sq. ft., in which are contained five- and three-room suites to the number of 57. Each suite presents many conveniences by no means generally to be found in apartment houses. In addition to the reception hall, bath and dressing rooms, there are large clothes presses, disappearing beds, 6-ft. dressing mirrors, and sideboards surmounted by serviceable and artistic bookcases; while the kitchens are supplied with gas ranges, cabinets, and everything that makes for the convenience of the housewife. All woodwork is finished in white enamel. The building, which cost \$200,000, is heated by steam, has a complete telephone system, lockers, double maple floors, a large laundry room with hot-air driers, an elevator service, fire-walls and doors dividing the building into three sections, and an incinerator in which all garbage is burned.

Mr. Devenish, who is a naturalized British subject, has been the active head of the firm since it was formed. He is a native of Indiana, U.S.A. Mr. G. S. Wolverton and Mr. W. A. Matson respectively fulfil the duties of vice-president and secretary-treasurer.

DIAMOND COAL COMPANY, LTD.

Although it owes its prominence largely to its agricultural potentialities and their extensive development, the future greatness of Alberta and its towns is by no means entirely dependent upon the fertility of its soil. During recent years a very considerable impetus has been given to the progress of the province by the discovery of large areas of coal within its limits, and the presence of many factories at Calgary, Edmonton, and other cities may be traced to the existence of this

all-important mineral. In the south of the province the property of the Diamond Coal Company, Ltd., includes some very valuable coal deposits, the company having mining rights to 4,851 acres, wherein it is estimated is contained 40,000 tons of merchantable coal, and being absolute owners of a further 2,050 acres. The mines are situated at Diamond City, the town site of which, comprising some 52 acres, is also the property of the company.

Even in Western Canada competition is sufficiently severe to necessitate the use of strictly modern machinery, and the company's plant is well adapted to economical production. It includes a steam plant compressor, two 250-h.p. Babcock and Wilcox boilers with mechanical stokers, and two 150-h.p. boilers made by the Robb Engineering Company. The coal is hoisted up an incline with steam power and handled in the mine by an electric motor, the power being generated by a 250-kw. Westinghouse generator and a 105-kw. generator. Compressed air is used for driving the mining machines, the compressor having a capacity of 3,000 cub. ft. of air per minute, while the tippie is worked by electric motors. All repairs are carried out in the company's own machine shop. During the summer months the output amounts to 300 tons per day, a quantity that is doubled during the winter. Most of the coal goes to Saskatchewan and Manitoba, though 30 per cent. is used in Alberta.

Diamond City, the property of the company, is a busy little town of 700 people, and is endowed with public utilities of surprising excellence. It is lighted by electricity, and the waterworks afford an ample supply of good water. The company's property includes a railway, which is connected with the Canadian Pacific Railway at Kipp—the first station west of Lethbridge—the hotel, and 42 solid brick residences which are rented to their workmen at reasonable rates. The town also contains a brick school-house, two churches, a number of stores and restaurants, two lumber yards, a branch of Molson's Bank, and two elevators of 60,000 and 25,000 bushels capacity.

The directorate of the company includes several prominent Western business men, the Hon. G. H. V. Bulyea, of Edmonton, being president; Mr. Thomas Underwood, of Calgary, the managing

director and secretary-treasurer; and the remaining directors consisting of Messrs. G. T. Stephens, L. V. Kerr, H. A. McLean, Thomas Robertson, and Dr. C. W. Clarke, the last two gentlemen being residents of Toronto. The head offices of the company are at Calgary.

DUNMORE DEVELOPMENT COMPANY, LTD.

This company, which has its head offices in Medicine Hat, was formed, as is indicated by its title, to develop Dunmore, a town site upon the Crow's Nest branch of the Canadian Pacific Railway. The company undertakes the investment of capital in first-class municipal and factory securities producing 8 per cent. net, collections and remittances being undertaken by the company without fee. No other form of investment is undertaken. Dunmore, the site of which is the property of the company, is in many respects favourably situated as regards future development. A station, round-house, and extensive yards have already been constructed there by the Canadian Pacific Railway, and, as the company point out, since it is the first point east of Medicine Hat at prairie-level, connection with other transcontinental lines is a likely event. In any case, the situation of the town site within the great natural gas district of Canada should secure for it the presence of various descriptions of manufacturing. Agriculture is extensively carried on in the surrounding country, to a certain portion of which Dunmore should eventually serve as a distributing centre. The company are making preparations to secure water from adjacent sources, and as an inducement to build within the town site, they offer to supply gas to manufacturers for light, heat, and power absolutely free of cost. In addition, the company will supply to manufacturers, also free of cost, spur tracks for the transport of goods and sufficient land for plants. Lots, upon which can be erected cottages for working men, are supplied by the company at nominal cost. The company, which is so energetically pushing to the front the claims of Dunmore, was incorporated on March 28, 1913, with a capital of \$100,000, of which \$40,000 was paid up. Mr. C. R. Ross, the managing director, is a native of Madoc, Ontario. On entering the West in 1905, he acted as electrical superintendent of the Winnipeg Electric Railway, which position he held until the formation of the company



DUNMORE DEVELOPMENT COMPANY, MEDICINE HAT.

1. PORTION OF THIRD AVENUE, DUNMORE.

2. ONE OF THE LOCAL INDUSTRIES

3. FIFTY-ROOM HOTEL OPENED SEPTEMBER 1ST, 1913

THE PRAIRIE PROVINCES OF CANADA

under notice. He has been connected with the engineering profession since 1896. He is a member of the Canadian Society of Civil Engineers, obtaining his diploma in 1911. The president, Mr. Donald A. Ross, is also a practical engineer and a member of the firm of Pratt and Ross.

THE FYSHE-MARTIN COMPANY, LTD.

Incorporated in 1911 with a capital of \$100,000 the Fyshe-Martin Company, Ltd., have speedily attained a leading position among Calgary's engineers and general contractors, and at the present time have contracts in hand which necessitate the continuous employment of some four or five hundred men. Many of the city's most prominent buildings have been erected by this firm, the most important being the City Fire Hall, the Canadian Equipment Supply Company's Warehouse, and two warehouses for the Canadian Western Natural Gas, Light, Heat, and Power Company, Ltd. The firm have at present in hand contracts to a total value of \$1,500,000, including the Knox Presbyterian Church and various large commercial buildings. They have also secured the contract for the installation of a filtration plant for the city of Medicine Hat.

Both Mr. T. M. Fyshe and Mr. E. N. Martin, the two principals of the firm, are natives of Canada, the former hailing from Halifax and the latter from Ontario. Both also are graduates of McGill University, possessing the B.Sc. degree, and being Associate Members of the Canadian Society of Civil Engineers. Mr. Fyshe is also an Associate Member of the Institute of Civil Engineers and an Associate Member of the American Society of Civil Engineers.

GEDDES AND SHEFFIELD

Messrs. Geddes and Sheffield, of Calgary, handle all classes of city property, but give special attention to trackage, warehouse, business, and industrial sites in the centre of the city, where operations are naturally conducted on a much larger scale than is the case with residential property in the suburbs and outlying subdivisions. Of the latter Messrs. Geddes and Sheffield have put upon the market such well-known properties as Elboya, Cossar, and Prospect Park, while both large and small areas of farm lands may be found on their lists.

A considerable loan and insurance business is done, the firm being agents for the Caledonian Fire Insurance Company and Fidelity Phoenix Fire Insurance Company. The loan department is chiefly engaged in placing money in first mortgages on improved property, the amount of the loan never exceeding 50 per cent. of the value of the property. This class of investment yields from 5 to 7 per cent. net profit, the rate varying according to the size of the mortgage, larger amounts naturally drawing smaller rates of interest.

The firm have recently formed a number of limited companies to handle more ambitious schemes.

Both Mr. Sheffield and Mr. Geddes are very closely connected with different companies in Calgary, among which may be mentioned Westminster, Ltd., and Calgary First Street West Syndicate, Ltd., capitalized at \$250,000 and \$183,000 respectively. Mr. Geddes is president of the former and vice-president of the latter, and Mr. Sheffield is secretary-treasurer of both. Each of these companies was formed for the purpose of purchasing excellent business corners on First Street West, Calgary's main artery.

Although born in Scotland, Mr. M. D. Geddes came to Canada at the early age of ten, and while in his teens took a very active and intelligent interest in agricultural affairs. For five years he was manager of the farm department of the Ontario Agricultural College, resigning this position to accept the associate editorship of a leading agricultural paper with headquarters at Winnipeg. He owes much to a knowledge of West Country conditions gained during his editorial regime. He occupied this post for two and a half years, and then, in company with Mr. Charles W. Peterson (ex-Deputy Minister of Agriculture for the Territories), founded the *Farm and Ranch Review*, which was published in Calgary. Concurrently with this work Mr. Geddes did considerable lecturing throughout the West, and acted as live stock judge, as secretary of the Inter-Provincial Council of Grain Growers and Farmers, and for a time as Associated Press correspondent for Calgary. These positions he resigned when, in conjunction with Mr. H. T. Sheffield, he established his real estate and financial business. He still finds an outlet for his surplus energy, however, in acting as vice-president of the *Farm and Ranch Review*, as director of

the Herald-Western Company, Ltd. (lithographing, printing, &c.), as director of the A. Mitchell Nursery Company, Ltd., as chairman of the Real Estate section of the Board of Trade, and in several other directions.

Mr. H. T. Sheffield was born in Nova Scotia, and passed the first four years of his business career in the service of the Canadian Bank of Commerce. A course in the Maritime Business College, Halifax, followed, and in 1907 he entered the employ of the city of Calgary. He was engaged on the assessment rolls for about 15 months, during which time he acquired a thorough knowledge of assessed values, and after a few months with a fire insurance company joined forces with Mr. Geddes in establishing the present business. Like his partner, he is interested in various other commercial concerns.

F. M. GINTHER LAND COMPANY, LTD.

This company has a capital of \$250,000, of which \$167,500 is subscribed, and of this sum \$48,125 has been paid up. The company was incorporated in 1912 for the purpose of dealing in property in Medicine Hat and farm lands in the neighbourhood of that city. Though the company was incorporated in 1912, however, the business dates back to 1907, when Mr. F. M. Ginther established the F. M. Ginther Land Company. Mr. Ginther has been instrumental in placing a great number of homesteaders in the district, and the business conducted by the firm in farm lands is at all times considerable. In addition to purely real estate transactions the firm undertakes the investment of money on behalf of clients in first mortgages upon city and farm properties. The amount loaned in these cases amounts to between 35 and 50 per cent. of a conservative valuation made by the firm. These investments produce 7 per cent. net to the investor, the interest upon money so invested being guaranteed by the company.

Agreements for sale are discounted on behalf of clients and produce from 10 to 15 per cent., with accrued interest upon unpaid balances.

The firm are the sole agents of the British Crown Assurance Corporation, of London, England, and of several Canadian companies. They are also local investing agents to the Cr dit Foncier F.C. The



GEDDES AND SHEFFIELD, CALGARY.

1. EXTERIOR OF OFFICE.

2. VIEW IN RESIDENTIAL DISTRICT, CALGARY.

3. VIEW FROM ELBOYA, ONE OF CALGARY'S BEST RESIDENTIAL DISTRICTS.

THE PRAIRIE PROVINCES OF CANADA

officers of the company are: President, Mr. F. M. Ginther; vice-president, Mr. W. A. Sprinkell; secretary-treasurer, Mr. H. S. Craig. All of these gentlemen are Canadians by birth. Mr. Ginther for some years previous to the establishment of the business was engaged in farming; Mr. Craig was formerly manager of branches of the Merchants Bank of Canada in Maple Creek, Leduc, Olds, Medicine Hat, and Wetaskiwin.

HUNT & CO.

The purchase of agreements of sale has become so popular a form of investment in Canada that Hunt & Co. of Calgary are confining their attention to that branch of the real estate business.

This form of investment is the result of the instalment method of paying for land which is so much in vogue in Canada. When land is to be paid for by a number of instalments spread over a period of time an agreement of sale is drawn up setting forth the conditions under which the land is sold. One of the conditions entails the payment of interest on the unpaid instalments. Many holders of these agreements, however, prefer to receive the whole of the money due in one instalment, and therefore transfer their agreement to a buyer who naturally deducts a certain discount. This discount on an agreement of sale, which bears 8 per cent. interest on the deferred payments, is usually from 10 to 15 per cent., the agreements as a rule only being discounted after the first and second payments have been made.

INTERNATIONAL COAL AND COKE COMPANY, LTD.

Among the larger companies that are exploiting the coalfields of Southern Alberta, considerable prominence has been attained by the International Coal and Coke Company, Ltd. The company was incorporated in Washington, U.S.A., in 1903, and, with a paid-up capital of \$3,000,000, is well equipped to conduct its operations successfully. Southern Alberta is very rich in coal, and the company's property, which consists of 7 sq. miles in the neighbourhood of Coleman, is no exception to the general rule. The coal is of a steam and domestic quality, and finds a ready market eastward to Broadview and westward to Greenwood, B.C. The daily output amounts to 2,000 tons per single shift, and about

700 men are employed. The president is Mr. A. C. Flumerfelt and the vice-president Mr. H. Davidson.

INTERNATIONAL SUPPLY COMPANY

Established in 1912, the International Supply Company, which has a capital of \$200,000, of which \$70,000 dollars has been paid up, is engaged in the manufacture of drilling machines and tools for oil, gas, and water wells. General repairing, machining, and heavy forgings are also undertaken.

The company has its headquarters and factory in Medicine Hat, where the local supplies of natural gas afford an abundance of cheap power. Considerable difficulty has been encountered, however, with regard to skilled labour, of which there is a considerable dearth. Raw material is obtained almost entirely from the East, and the finished products are shipped to all parts of the Dominion.

The company acts as agents for Bessemer gas engines, Bessemer power plants, Bessemer pumping plants, Buckeye traction ditchers, Buckeye clay diggers, and mill contractors' supplies.

The president and general manager is Mr. W. R. Martin, a native of Pennsylvania, U.S.A. He has been in the West for seven years. The vice-president is Mr. Eugene Coste, and the secretary-treasurer Mr. J. J. Mahaffy. These gentlemen, together with Messrs. Phillips and MacFyshe, constitute the board of directors.

W. C. IVES

A native of Quebec and a B.C.L. of McGill University, Mr. William Carlos Ives has practised law in Lethbridge since 1901. For the first five years he was in partnership with Mr. Conybeare, but this partnership was dissolved in 1906. In 1910 Mr. Ives entered into a second partnership, this time with Mr. Ball. In July, 1912, he retired from general practice, and now devotes his energies to the care of investments and counsel work. Mr. Ives acts as solicitor in Lethbridge for the Merchants Bank of Canada, Imperial Bank of Canada, Bank of Toronto, Messrs. Campbell, Wilson, and Horne, Ltd., and the Taylor Milling and Elevator Company, Ltd.

LEGG AND SAUNDERS

Joining forces in May, 1911, Mr. E. J. Legg and Mr. R. R. H. Saunders, both of

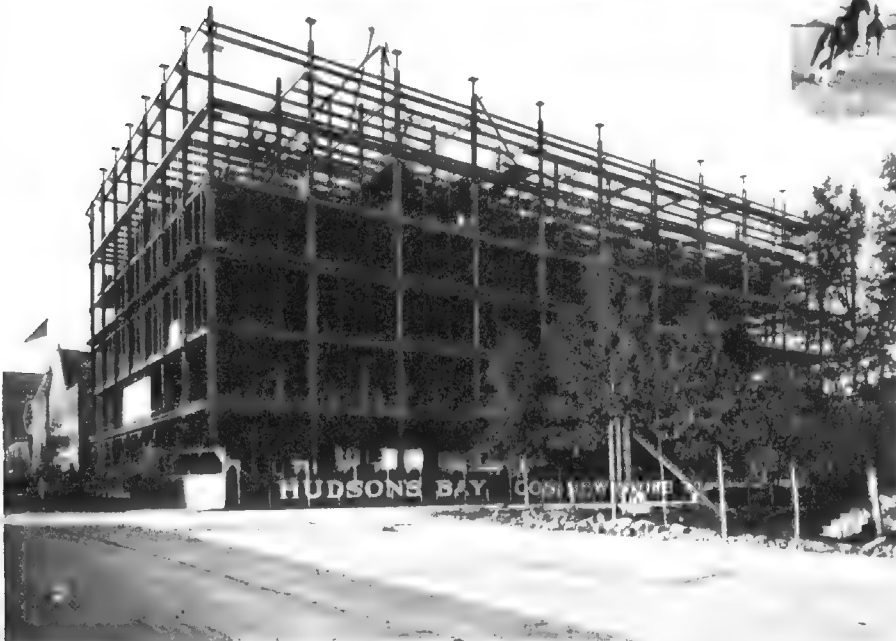
whom had for some time been engaged in the realty business as members of other firms, early decided to confine their attention solely to that class of property which was certain to be ultimately required for building or other productive purposes, and to eschew altogether such land as acquired a value merely through the operations of speculators, the selling of subdivisions having been carried in some instances beyond the bounds of reason. It is easy to understand that in a city which has made such phenomenal progress as Calgary, and which shows every sign of equally wonderful development in the future, many will be found whose enthusiasm is quite untempered with caution and who fail to see any limits to the growth of the city.

Investors would be well advised to leave such land severely alone and to place their money in property situated within certain defined boundaries. In Calgary it can scarcely be doubted that land in most parts of the city will advance in value. Messrs. Legg and Saunders are keenly interested in the south-west quarter, where building operations have recently been very actively carried on, though their dealings include property situated elsewhere, as well as farm lands which possess a sufficiently fertile soil to render them productive.

Like many other firms, Messrs. Legg and Saunders combine insurance with their real estate business, and in that connection are agents for the Royal Insurance Company of Liverpool. They also undertake the investment of money in mortgages and look after rentals for owners whose time is otherwise employed.

LEIGHTON AND GILBERT, LTD.

This firm, which commenced operations at Calgary in 1911, is one of the few real estate firms devoting itself solely to farm lands and ignoring sometimes more speculative town properties. There is much to be said in favour of investing in agricultural land, and Messrs. Leighton and Gilbert are well qualified to express an opinion, both gentlemen being farmers and land experts of wide experience. It has been proved beyond all doubt by Government and independent inspection that whilst the farms of Alberta are more productive than the lands on the other side of the International boundary, they are in many instances selling at a far lower



LEGG AND SAUNDERS, 40, CADOGAN BLOCK, CALGARY.

1. EIGHTH AVENUE, CALGARY, LOOKING WEST.

2. THE NEW HUDSON'S BAY BLOCK IN COURSE OF CONSTRUCTION, COSTING \$300,000.

3. A ROUND-UP OF "BEEF" NEAR CALGARY.

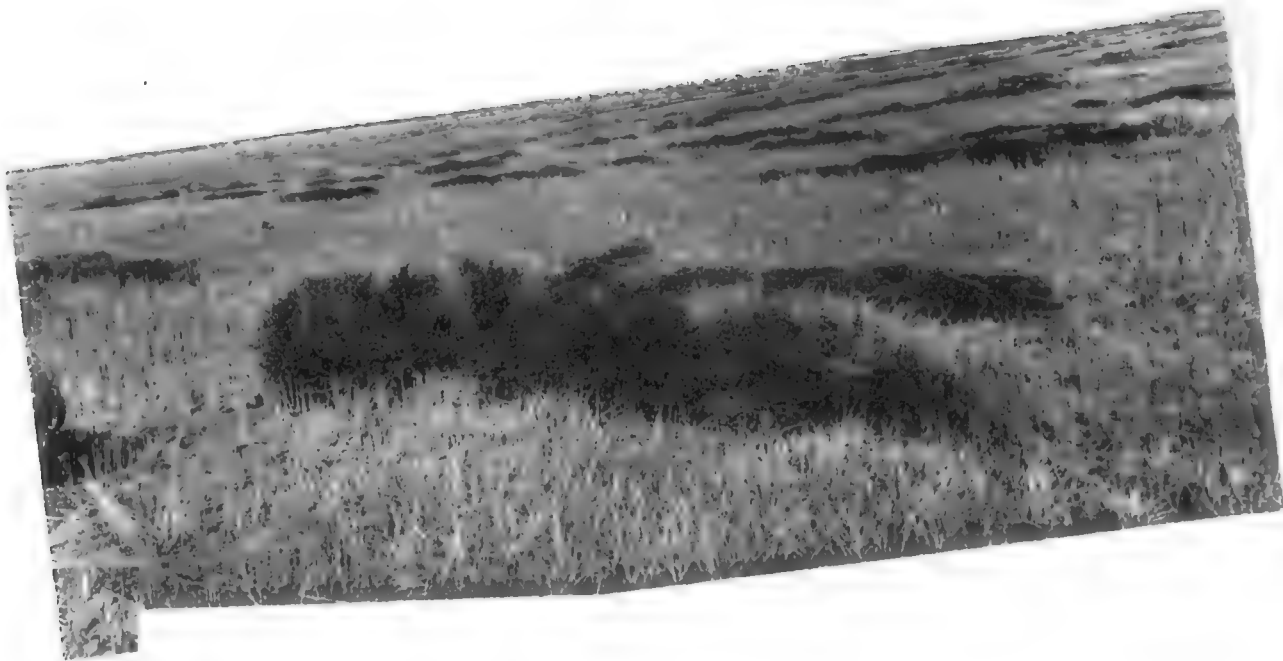
4. INSET.



LEIGHTON AND GILBERT, LTD., CALGARY.

1. THRESHING BARLEY, 46 BUSHELS TO THE ACRE, NEAR CALGARY.

2. OATS.



LEIGHTON AND GILBERT, LTD., CALGARY.

1. WHEAT.

2. CROP OF FLAX

THE PRAIRIE PROVINCES OF CANADA

price. American farmers are fully alive to this fact, and despite the disadvantages of living under a foreign flag the number that cross to Canada is increasing each year, and has reached such proportions that the United States Government has found it advisable to consider steps to restrict the emigration. But Canada offers too many advantages to be ignored. The increment that is certain to accrue to a careful purchaser, and the greater annual revenue to be derived, are irresistible inducements. Neither does Canada occupy a second place in the matter of markets. Every bushel of wheat that she can grow finds a ready purchaser, and the flood of immigrants, of which a large proportion is settling on the land, assures the easy disposal of stock, pigs, poultry, seed, and other produce.

While arguing that success must attend the efforts of the farmer who knows his business and tills his lands on sensible lines, Messrs. Leighton and Gilbert do not hesitate to admit that there have been failures in Alberta, which they ascribe in part to insufficient study of local conditions. It is more likely, however, that more failures have been due to the folly of farmers in purchasing more land than they could afford to till, in depending entirely upon grain and neglecting live stock, and in extravagant waste of by-products. Farming in Canada is conducted on very simple lines, but a little care and forethought may make the difference between profit and loss, even on the fertile plains of Alberta.

One of the greatest mistakes made by Alberta farmers is that they are apt to buy larger tracts of land than their capital will justify. The firm of Leighton and Gilbert make a speciality of advising clients as to the exact amount of capital required to develop tracts of every size, and, as this firm carries on extensive farming operations in Alberta, the partners are in position to give valuable information to the new settler.

Prior to entering upon his present enterprise, Mr. Henry Leighton had served some time in the Land Department of the United States Government. He is a practical and experienced farmer, as is his partner, Mr. O. N. Gilbert, who gained considerable experience as manager of the M. Rumely Company in Alberta and various machinery companies. The firm deals in improved and unimproved farm lands in both small

and large tracts, suitable for stock ranching, general, or grain farming.

LOUGHEED AND TAYLOR, LTD.

Messrs. Lougheed and Taylor commenced operations in Calgary in 1911 and have since developed a large business as investment brokers, acting as agents for many investors in Great Britain and Canada, who, through them, have made investments in Western Canada.

The principal forms of investments handled by this firm consist of first mortgage loans, real estate properties mainly in the form of business and revenue-producing properties, and discounting agreements for sale.

It may be of interest to mention that mortgage loans are usually negotiated at rates varying from $6\frac{1}{2}$ to 8 per cent., depending entirely upon the amount invested and upon the security taken.

Agreements for sale have frequently been secured producing a net revenue of from 10 to 12 per cent.

This firm has also invested considerable sums in coal and timber areas, oil fields, and similar enterprises calculated to develop the natural resources of the country.

F. C. LOWES & CO.

The firm of F. C. Lowes & Co., of which Mr. Frederick Charles Lowes is the sole proprietor and founder, was established at Calgary in August, 1906.

There are few districts of Western Canada in which Mr. Lowes is not interested, either as a land-owner or broker. He has carried to a successful conclusion many large real estate transactions in Calgary, and the same remark applies to several other rising Western towns, in some of which his interests have necessitated the establishment of branch offices. Special attention has been devoted to subdivisions, a very popular form of investment with the man of small means, and one in which large profits have been made in the past.

Each succeeding year sees a large increase in the acreage of land brought under cultivation in Alberta, and the firm's farm land department is in touch with improved and unimproved farms in every part of the province.

The fruit lands of British Columbia are also engaging its attention, and certain districts of that province bid fair to out-

rival in popularity even the fertile plains of Alberta.

Although real estate is the firm's principal business, its activities in other directions are of no small importance. The investment of money in mortgages and various business enterprises, the sale of shares in large corporations, and the development of timber limits and coal properties are all undertaken, while many companies are represented in their insurance department, in which fire, life, and accident risks are covered. The insurance business, in fact, is that in which Mr. Lowes first made his debut in the world of commerce, entering the employ of the Canadian Life Assurance Company of Toronto in 1899. He was promoted to the post of secretary for the company for the North-West Territories in 1902 and three years later was made inspector for the province of Alberta.

The firm have established an office at Piccadilly Circus, London, England.

MANNING-SUTHERLAND LUMBER COMPANY, LTD.

Established at Camrose in 1909, the Manning-Sutherland Lumber Company, Ltd., is engaged in the distribution of every description of lumber, including lath, shingles, doors, and windows; and also building materials, such as roofing and wall papers, bricks, lime, cement, and plaster.

The company has large, well-equipped yards at Camrose which cover an area of 150,000 sq. ft., and a large stock of various wares is carried. Other yards are situated at Bawlf, Strome, Meeting Creek, and Round Hill. The demand for building material and lumber is very heavy at Camrose and in the surrounding district, where many new farm buildings are erected each year. Eighteen men are employed by the company.

The officers consist of Mr. H. A. Manning, the president; Mr. David Sutherland, the managing director; and Mr. F. C. Manning, the secretary-treasurer. All these gentlemen have had many years' practical experience of the lumber trade, Mr. Sutherland having for several years been manager of the Revelstoke Lumber Company's branch at Wetaskiwin. Messrs. Manning are from the Old Country and Mr. Sutherland from Ontario, but all have resided in the Western provinces for a long time.



F. C. LOWES & CO., CALGARY.

1. HYDRAULIC METHOD USED TO LEVEL AND TERRACE ROXBOROUGH PLACE.

2. TWENTY-SEVENTH AVENUE, ROXBOROUGH PLACE, SHOWING CEMENT SIDEWALKS, CURB, AND SHADE TREES INSTALLED.

3. A RESIDENCE IN ONE OF MESSRS. LOWES' DEVELOPED SUBDIVISIONS.

THE PRAIRIE PROVINCES OF CANADA

McCUTCHEON BROS., LTD.

Entering Western Canada from the town of Shelburne, Ontario, the three McCutcheon Bros. established themselves in Calgary in 1906, their first business venture taking the form of a retail chemist shop. In a short while two additional shops were acquired, and the proprietors began to turn their attention to real estate. Their first investment consisted of a piece of land in North Calgary. It was a shrewd purchase and a happy augury for their ultimate success in the realty business, to which they are now devoting all their energies. Until 1909 they confined their operations to Calgary, but in that year established an office at Winnipeg. Further branches were opened in Toronto, Fernie, Edmonton, Regina, and Moose Jaw, and these were recently augmented by subordinate offices in Ottawa, Brantford, and Victoria, B.C.

The firm have directed their attention almost solely to first-class residential properties, in the choice of which Mr. David S. McCutcheon, the senior member of the firm, is a recognized expert. The Calgary and other Western offices are under his personal supervision, Messrs. Gordon D. McCutcheon and Melford McCutcheon being in charge of the Eastern and Winnipeg offices respectively. The progress which this business has been able to show each year affords striking evidence both of the ability with which it has been conducted and of the opportunities offered by the West to energy and enterprise.

THE MEDICINE HAT MILLING COMPANY LTD.

This company commenced operations in Medicine Hat in 1902, with a capital of \$30,000 fully paid. Since then the business has increased until last year the company built an entirely new mill, with a daily capacity of 1,000 barrels of flour and 100 tons of feed. The capital of the company has increased to \$500,000, of which \$350,000 is fully paid.

The company operate a number of elevators in connection with the mill. These elevators are located at country towns close to Medicine Hat, and they purchase practically all the supply of grain required for the flour-mill. About 35 hands are employed when the mill is running day and night, and the products are sold all over the world, Alberta and British Columbia being the principal markets.

Controlled by the management of this company is the Alberta Linseed Oil Mills, Ltd., which was formed in 1911. This business has a capital of \$200,000, of which \$100,000 is paid up.

These mills produce about 1,500 gallons of linseed oil per day, which is marketed in Alberta and British Columbia. The demand at present experienced is sufficient to keep the mill in operation for about seven months of the year. The by-product known as oil-cake is exported principally to the British Isles and Holland. The flax fibre, however, is not used, as no linen manufactory exists in Western Canada, and the cost of transportation elsewhere would be prohibitive.

The principal offices of both companies are held as follows: President, John McNeely; vice-president, H. C. Yuill; secretary and treasurer, W. W. McNeely.

G. C. MILLNER

Mr. G. C. Millner is conducting a business in real estate and insurance at Taber, where he also acts as a commissioner for oaths. He opened his office in 1906, in the early days of the development of the neighbouring coalfields. In the insurance world he is the local agent for the Commercial Union Fire Insurance Company, the Liverpool and Manitoba Fire Insurance Company, and the Hartford Fire Insurance Company. Mr. Millner is also keenly interested in farming, of which he has a practical knowledge, owning some 2,000 acres in the district.

Mr. Millner takes a close interest in the public affairs of the town, occupying a seat on the Board of Trade and ably carrying out the duties of Town Secretary.

NIBLOCK AND TULL, LTD.

Capitalized at \$100,000, this company was incorporated in 1912, Messrs. Niblock and Tull having since 1909 carried on business as a private firm.

The company are operating at Calgary in real estate, loans, fire, and liability insurance, and act as sole ticket agents for the Grand Trunk Pacific Railway and as agents for the Atlantic steamship lines. They issue International Mercantile Marine money orders and Canadian express orders to all parts of the world, and conduct a foreign money-exchange on the usual lines,

agencies having been established for this purpose in all countries.

The real estate operations of the firm are confined principally to the city of Calgary, where they handle both business and residential properties, buying and selling on behalf of their clients, and also investing money in loans on mortgage. In their insurance department the company represent several American and Canadian companies, including the United States Fidelity and Guaranty Company, the American Central Insurance Company, the Hartford Fire Insurance Company of Hartford, Connecticut, and the Queen Insurance Company of America.

Mr. D. B. Niblock is a native of Ontario, and on coming to the West, entered the employ of the Canadian Pacific Railway, remaining with them for 14 years. He was afterwards engaged in the real estate business until he formed a partnership with Mr. G. F. Tull. The latter gentleman was also born in Ontario, and came to Calgary in 1907, entering the real estate business upon his arrival. He and Mr. Niblock are joint owners of Argyle Court, one of Calgary's spacious apartment houses.

PARMALL'S BRICK COMPANY, LTD.

There are few towns in Alberta that are better suited to the brick industry than Medicine Hat, where Parmall's Brick Company, Ltd., has its home. There are extensive deposits of excellent clay, an abundance of cheap power provided by the natural gas of the district, and a growing market in the immediate vicinity. On the other hand, there is a serious shortage of skilled labour, and Messrs. Birney, the proprietors of the company under notice, have frequently found themselves in difficulties on this score.

Parmall's Brick Company, Ltd., which has a capital of \$50,000, was acquired by its present owners, Messrs. E. R. Birney and L. Y. Birney, from its founder, Mr. Parmall, and is engaged in the manufacture of faced and plain bricks. At present the output reaches 70,000 a day, but improvements in the plant are already being effected, and this figure will ultimately be increased to 170,000. The raw material is situated about 1 mile east of the city.

Both the proprietors are natives of Pembroke, Ontario.

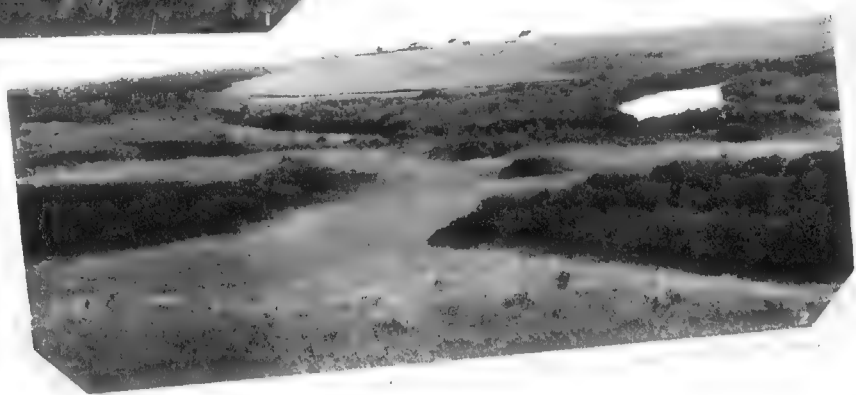


McCUTCHEON BROS., LTD., CALGARY.

1. JASPER AVENUE, EDMONTON, LOOKING EAST, 1903.

2. JASPER AVENUE AT THE PRESENT DAY.

(Photos by Ernest Brown.)



McCUTCHEON BROS., LTD., CALGARY.

- 1. VIEW FROM KINGSWAY PARK, LOOKING TOWARDS MOOSE JAW.
- 2. LOOKING SOUTH OVER KINGSWAY PARK SUBDIVISION, MOOSE JAW.
- 3. FIRST AVENUE WEST, CALGARY, LOOKING SOUTH.
- 4. POST OFFICE, REGINA.

SOUTHERN ALBERTA

THE J. H. PRESTON PLANING MILLS

The J. H. Preston Planing Mills, at which are manufactured mouldings, sashes, doors, door frames, and every variety of interior house fittings, were established in 1909, with a capital of \$20,000, a sum which has since been considerably increased. The consumption of such wares as the mills manufacture has reached very large proportions in the Prairie Provinces and the present plant is unable to cope with the ever-increasing demands made upon it. It has therefore been decided to install new machinery of the most modern description, which will cost \$70,000. With these improvements the mills will be able to increase their output to \$10,000 a week. The natural gas of the district forms the driving power, and raw material is largely obtained from British Columbia. Hard woods are brought from Eastern Canada and occasionally from the United States. The markets are mainly local, comprising the lumber yards that are situated between Swift Current, Medicine Hat, and Lethbridge.

Mr. J. H. Preston, the proprietor, is a native of Tottenham, Ontario. The general manager is Mr. A. Webb.



ROBERTSON AND CARLILE, LTD.

The firm of Archer and Carlile, Ltd., which is taking so important a part in the development of Calgary and the West, may be said to consist of the executive of Archer and Robertson, Ltd., and the investing clientele of J. A. Robertson and R. C. Carlile, for the firm of Archer and Robertson, Ltd., is now amalgamated with this concern. The firm as now constituted was formed in 1912 to represent the interests of a large circle of Canadian, English, and Scotch clients, an undertaking in which it is greatly assisted by a London branch possessing centrally situated offices in Waterloo Place.

Since its formation it has been the policy of the firm to place funds where they are needed for the purpose of development. Acting on this principle, funds have been invested in mortgages, buildings, agreements of sale, and in the purchase of undeveloped city property and land. Some idea of the activities of the firm within Calgary may be gathered from the fact that during the last 12 months more than 100 houses have been erected contiguous to car lines within the most desirable parts

of the city. These houses, which are fitted with every modern convenience, are rented or sold to good tenants upon easy terms. This policy has from the first been entirely successful. With the development of the West, the demand for dwellings of every description has been, and for some time must continue to be, continuous.

In addition to residential property, the firm has erected buildings upon Eighth Avenue to be used as stores and offices.

The erection of business blocks has necessitated the formation of syndicates. The investing public is accordingly provided with an opportunity to participate in profitable and secure undertakings frequently restricted to larger capitalists.

The organization of the firm is necessarily most complete, different aspects of the business being handled by different departments. The erection of houses and business and other blocks is undertaken by the building department, under the management of Mr. E. H. Telfer. This department regularly supplies business to the insurance department, which, in addition, has acquired a valuable outside connection. When the buildings are completed and tenanted, the revenue to be derived from them is collected by the rental department.

In its real estate transactions the firm specializes in the south-western district of Calgary. Thanks to its proximity to the Indian Reserve, where the wooded scenery of the Elbow River should soon provide the city with a beautiful park, this portion of Calgary is rapidly becoming known as a most desirable residential district.

The future policy of the firm includes the development of Calgary and other cities in which the expansion of the population has produced a shortage in residential accommodation. A feature of the firm's activities is the provision of individual houses for employees of the better class, who are frequently compelled to occupy inadequate quarters at large rentals. The soundness of this policy has been abundantly proved during the past year, which has shown that the most profitable disposal of funds is that obtained by the provision of houses at low rentals. Another point worth mentioning is the fact that houses are at first built upon alternate lots, a policy that secures profit for speculative investors in vacant property and convenience for the tenants of the adjoining residence, who have a temporary use of the site. Every

inducement to purchase his house is given the satisfactory tenant. Payment may be made in monthly instalments. When the house is purchased the tenant is encouraged to acquire the adjoining lot. From the tenant's point of view this proceeding offers many advantages, of which he is frequently glad to avail himself. But the entire district can be said to be the gainer by this plan, since overcrowding with its attendant evils is prevented. In New Zealand the law forbids the erection of more than one house upon one quarter of an acre, and in seeking to give practical effect to a similar policy in Western Canada, the firm is undoubtedly performing useful work. Wherever possible the garden is fenced and planted with trees, and, as an incentive to the tenant to keep his house and land in the best possible trim, prizes will be offered each year for the best-kept house and garden. This policy will be maintained when the firm extends its operations to other cities in the West.

Finally, the opportunities offered by the Province of Alberta to mixed farming and market gardening provide sound investments in many directions. With the assistance of experts, Messrs. Robertson and Carlile, Ltd., will take their share in development work in these directions. It is their aim to secure for investors both security and profit. The policy of allowing tenants to purchase their own houses and of providing residences at moderate rentals in crowded districts has been abundantly justified, and should prove as profitable in the future as it has been in the past.



SARNIA RANCHING COMPANY, LTD.

This large ranch, which is to be found at Walsh, Alberta, was incorporated by Mr. J. A. Grant, father of the present principal, in 1892. The capital of the undertaking was at that time fixed at \$40,000. Since then, however, numerous additions have been made to the ranch, and to-day the capital of the company stands at \$100,000, \$99,200 being issued and fully paid. Over 80 per cent. of the stock, it may be remarked, is held by members of the Grant family and Mr. J. C. Beatty.

This company owns about 14,000 acres and in addition leases over 11,000 acres from the Dominion Government. The live stock carried on the ranch comprises horses, cattle and sheep; of the 400 horses, the majority are Clydesdales, and of the 500 or



ROBERTSON AND CARLILE, LTD., DOMINION BANK BUILDING, CALGARY
SPECIMENS OF HOUSES ERECTED BY ROBERTSON AND CARLILE, LTD.



ROBERTSON AND CARLILE, LTD., DOMINION BANK BUILDING, CALGARY.
SPECIMENS OF HOUSES ERECTED BY ROBERTSON AND CARLILE, LTD.



ROBERTSON AND CARLILE, LTD., DOMINION BANK BUILDING, CALGARY.

1. GENERAL VIEW, SHOWING NEW PROPERTIES SET ASIDE BY THE CITY FOR INDUSTRIAL SITES AND WORKMEN'S DWELLINGS ERECTED BY ROBERTSON AND CARLILE, LTD. (LEEDS DISTRICT.)
2. TYPES OF WORKMEN'S HOUSES ERECTED BY ROBERTSON AND CARLILE, LTD., IN LEEDS DISTRICT.
3. VIEW OF EIGHTH AVENUE WEST, SHOWING TWO BUILDINGS IN COURSE OF ERECTION BY ROBERTSON AND CARLILE, LTD.

SOUTHERN ALBERTA

so head of cattle the greater number are Shorthorns, though this total includes a small sprinkling of Herefords. The sheep vary in number from time to time; from 10,000 to 15,000, however, are usually carried. Shearing is performed once in the year by hand.

About 14 hands are employed for the greater part of the year, but at lambing and shearing times this number is increased to 24 or 26. Suitable men can, in fact, usually find employment in this direction at the proper season.

The cattle are frequently marketed from 200 to 2,000 miles away; shipments have been made to centres as far east as Toronto and westward to the coast. In the past a few shipments have been made to Great Britain. Wool is shipped from the ranch to Ontario and there marketed locally.

The president of the company is Mr. A. D. Grant; Mr. F. J. Grant combines the office of vice-president and manager, and Mr. J. C. Beatty is the secretary and treasurer. These gentlemen are Canadians by birth and have had a life-long experience of ranching matters.

SCOTT AND STUART

Mr. J. Scott and Mr. George A. Stuart occupy prominent positions in local accountancy circles, and the books of many large firms and corporations are placed under their supervision. A number of the commercial houses in Winnipeg have branch offices in Calgary, and after practising four years in the former city (from 1905 to 1909) Messrs. Scott and Stuart opened a subsidiary office in the Alberta town. Mr. Scott is a Chartered Accountant of Scotland. His partner holds a Canadian qualification, having become a member of the Manitoba Chartered Accountants' Association in 1911.

HAROLD E. SMITH

Leaving his native town of Birmingham, England, in 1909, Mr. Harold E. Smith the same year arrived at Calgary, where he founded the Great West Drafting Company, a firm of general architects and surveyors. A short residence in Western Canada, however, soon convinced him of the wonderful possibilities to be found in the ever-increasing value of the land, and turning his attention to real estate he

rapidly built up a sound business largely with British clients resident about his native town.

He specializes principally in the selling and re-selling of suburban lots and acreage, a form of speculation yielding most substantial profits to the careful purchaser; the sale of revenue-producing properties, such as residences, business and apartment blocks; and the investment of money on first mortgage, now rapidly becoming one of the most popular methods of investing capital.

Mr. Smith owns, about six miles to the north of Calgary, some 1,120 acres, which have been found by mineral experts to be rich in sand, clays, shale, &c., for which the local demand is even now assuming enormous proportions. A company, under the title of the "Calgary Stone, Brick and Construction Company," has been formed to work the property. A survey recently made is said to have yielded most satisfactory results, the sandstone being found to be of the highest quality for building purposes, the marl suitable for the manufacture of pressed brick, while there is every indication that a large and continued flow of gas can be obtained. The latter is of the greatest value, tending greatly to decrease the cost of manufacture as against lignite coal and soft wood. A number of blocks of sandstone have already been mined from the quarry for test purposes, and have been proved to possess an ultimate crushing strength of 1,080 tons per square foot and an ultimate tensile strength of 2,300 lb. per square inch.

SMITH'S FARM

Smith's Farm, which consists of 4,500 acres in the vicinity of Lethbridge, is a portion of a large block of land purchased in 1905 from the Alberta Railway Irrigation Company.

The chief buildings consist of a frame-house of eight rooms and stables, providing accommodation for 16 horses. Bunk accommodation for seven men and stabling for 12 horses has been erected in another part of the estate. Thirty-five horses are to be found on the estate. These horses are of Percheron grade, and if placed on the market would sell for \$7,000. In addition, the farm carries 135 head of cattle of the Shorthorn grade, two registered Shorthorn bulls being kept on the premises. It is interesting to note

that the herd was started in 1909 with 21 heifers of selected range cattle, valued at \$400, and one bull, 15 months old, valued at \$90. The steers are fattened and sold at the age of three years, principally in Lethbridge, the market price averaging \$95. Other live stock includes 10 brood sows, one registered Berkshire boar, and 60 pigs. Lethbridge also provides a market for these animals, the price of pork, live weight, varying from 7 to 8 cents per lb. Poultry is also raised to some extent.

Farming implements are stocked to an estimated value of \$18,000.

The following acreage was in crop in 1913:

Winter wheat (Alberta Red) about 500 acres	
Spring " (Red Fife)...	900 ..
Barley and oats (White Banner),	350 ..
Cultivated timothy	140 ..
Alfalfa	235 ..
Irrigated prairie (for hay)	240 ..
Potatoes and vegetables	30 ..

This year 650 acres were summer-fallowed. The balance of the estate is in use as pasture land. Alfalfa, it may be noted, is becoming very extensively cultivated in this locality.

The yield of various crops will prove of interest to those contemplating farming in Western Canada. Briefly, alfalfa averages 2 tons to the acre (two cuttings); timothy hay, 1 ton to the acre (one cutting); winter wheat about 40 bushels and spring wheat about 25 bushels to the acre; oats, 60 bushels to the acre; and barley, 40 bushels to the acre. Potatoes averaged in 1912 from 5 to 8 tons per acre and yielded \$15 per ton. The price secured for timothy hay runs from \$14 to \$20 per ton, and of spring and winter wheat 70 cents per bushel. Cabbages, beetroots, and carrots, for which a market is secured in Lethbridge, are also grown.

The entire farm is fenced and cross fenced, about 30 miles of fences having been erected.

Irrigation is secured from the Alberta Railway Company's supply, water being charged for at the rate of \$150 per annum for each 160 acres.

About 20 hands are employed, their wages averaging from \$40 to \$50 per month.

The nearest elevator to the main buildings is situated at Coledale, about five miles away, the distance to Lethbridge, which,

THE PRAIRIE PROVINCES OF CANADA

as we have noted, forms the principal market for the farm produce, being greater by one mile.

The farm, which is owned by Messrs. Smith, of Lancaster, England, is managed by Mr. G. O. Kerr, who holds an interest in the property. Mr. Richard Smith, who visits Western Canada every year, is a firm believer in the advantages of mixed farming.

TOOLE, PEET & CO.

Established in 1905, the firm of Messrs. Toole, Peet & Co. is an extension of the business formerly owned by Mr. George L. Peet, who for several years prior to joining Mr. William Toole had conducted a financial, real estate, and insurance agency. Like many other business men in Calgary, Mr. Peet found that his business was growing at a rate that did not allow of his coping with it himself, and a larger firm was accordingly formed by his amalgamation with Mr. Toole. The business is now divided into four departments—loan, real estate, insurance, and coal—each department being under the management of a thoroughly experienced man, the two partners exercising a general supervision. In the realty business the firm specializes in what is generally termed “inside property,” *i.e.*, property within or adjacent to the city limits. Such are the Calgary suburbs owned by the Canadian Pacific Railway, Mount Royal, South Mount Royal, Bridgeland, and Sunalta—for which the firm are the exclusive local agents—while they are also the exclusive agents for the subdivision known as St. George's Heights, situated within the 1½-miles circle of the post office. Mr. Toole is, in addition, the loan manager for Southern Alberta for the Investment Departments of the Canada Life and the Imperial Life Insurance Companies. He is also a member of the local board of the Edinburgh Life Assurance Company. A large investment business is done on behalf of clients in Great Britain and Eastern Canada, for whom hundreds of thousands of dollars have been invested in first mortgage securities. The firm's insurance department has the reputation of being one of the largest to be found between Winnipeg and the Pacific Coast, the companies represented including the Home Insurance Company, New York, the Insurance Company of North America, the Quebec Fire Assurance Company, the Scottish Union

and National Insurance Company, the Commercial Union Assurance Company, Ltd., the Royal Insurance Company, Ltd., and the Ocean Accident and Guarantee Corporation, Ltd.

Before joining forces with Mr. Peet, Mr. Toole was for 16 years in the service of the Canadian Pacific Railway Land Department, during 11 of which he was district agent in charge of the company's lands and town sites in Alberta; he was therefore enabled to acquire a knowledge of Alberta land that has stood him in good stead since he undertook his present enterprise.

J. B. WATSON REALTY COMPANY

When it is considered that there are within the boundaries of Alberta no less than 100,000,000 acres of arable land, it at once becomes apparent that no firm, however central its situation, can hope to have a thorough knowledge of every district, unless it has a perfectly organized system of agents. The difficulty of handling land in all parts of the province from their office in Calgary was the first problem that taxed the ingenuity of the J. B. Watson Realty Company when they commenced business in July of 1911, and it was only after a careful consideration of the matter that they were able to arrive at a really satisfactory solution. Having first ascertained from their client in which part of the province he prefers to settle, and what sum he is prepared to invest, the firm immediately communicates with their agent in the chosen district, who, having an intimate knowledge of all the neighbouring farms, is able to visit Calgary and take the prospective purchaser on a tour of inspection. In the event of nothing suitable being available in that vicinity, the client is put in touch with an agent in another district and a similar procedure followed. In this way the client always has the benefit of the advice and services of a man who is thoroughly conversant with the country, and the firm are saved a dissatisfied purchaser.

The price of farm lands varies according to their proximity to a railroad and the extent of the improvements made upon them. Many may be purchased at as low a figure as \$12 per acre, while a well situated farm with first-class buildings and other improvements will be held at \$35

or \$40 per acre. The Canadian Pacific Railway's ready-made farms, for which the J. B. Watson Realty Company are agents, are being sold at very reasonable prices and on most favourable terms.

In addition to farm lands, the firm are dealing extensively in subdivisions, buying large blocks of land close to the city and dividing them into building lots, a form of investment which often returns exceptionally high profits. As the first payment on such properties is frequently as high as \$50,000, it is difficult for a single firm to finance these schemes, and it is usual to form a syndicate for the purpose, the shares of which are sold at \$1,000 each. It should be noted that dividends on these shares are not paid as soon as all the property has been re-sold, but are held over until the syndicate are in a position to pay the final instalment of the purchase price. By paying off the balance at the earliest possible moment, the interest, usually 8 per cent., is saved and on large sums this makes a material difference.

The firm also act as accountants, Mr. John B. Watson having followed that calling for many years and being elected city auditor of Calgary in 1906. He is a native of Glasgow, Scotland, and after serving an apprenticeship of five years, crossed the Atlantic and spent four years in the United States before coming to Canada in 1903. He took his degree as Chartered Accountant in Montreal, and came to Calgary in 1906, and has since followed that profession in addition to operating in real estate. He is a large property owner in Calgary.

His partner, Mr. Ansel H. Holdsworth, is a native of Digby, Nova Scotia, and for many years was engaged in the grocery business before seeking his fortune in Western Canada. He entered the real estate business upon his arrival in Calgary in 1910, and joined forces with Mr. Watson the following year. The firm have recently established a branch office in Montreal and another in Revelstoke, a potent indication of the rapid and substantial growth of their business.

WESTERN CANADA LUMBER COMPANY, LTD.

The Western Canada Lumber Company, Ltd., which is capitalized at \$300,000, was incorporated in 1904 for the purpose of



J. B. WATSON REALTY COMPANY, CALGARY.

1. UNION DEPOT, MOOSE JAW.

2. TWENTIETH STREET, SASKATOON, LOOKING WEST.



J. B. WATSON REALTY COMPANY, CALGARY.

1. SCARTH STREET, REGINA.

2. ELEVENTH AVENUE, REGINA, LOOKING WEST FROM SCARTH STREET.

SOUTHERN ALBERTA

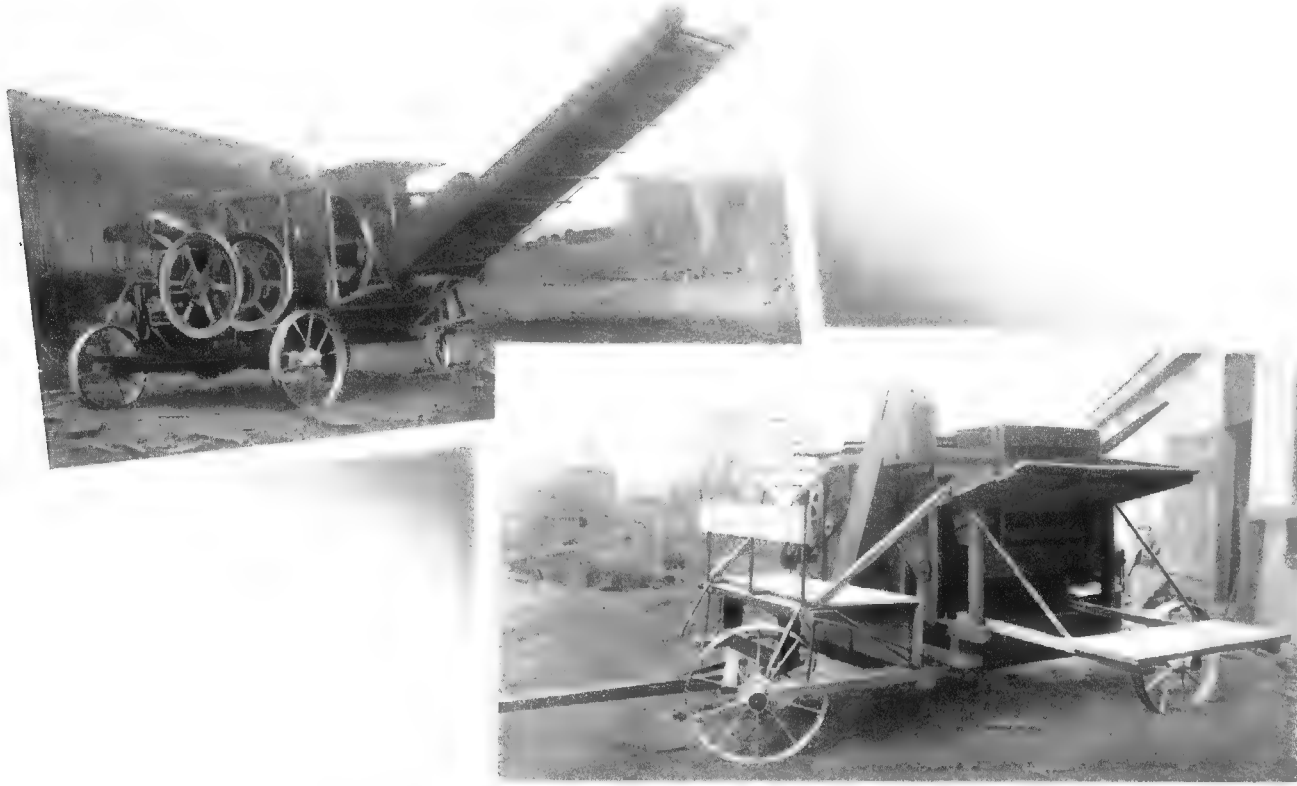
acquiring the business of the Claresholm Lumber and Grain Company, Ltd. Its operations consist of distributing plain lumber among the small towns of Alberta and Saskatchewan, where the demand is very heavy. The general offices are situated in Claresholm, Alberta, and the yards are

WESTERN CANADA THRESHING MACHINE COMPANY, LTD.

This company, which is situated in Medicine Hat and has a capital of \$100,000, of which \$35,000 has been paid up, manufactures a grain separator known as the "Maloney Patent Thresher." The chief

avoided. Coupled with these benefits the machine carries the additional advantage of being considerably less costly than its rivals, a saving of 40 per cent. upon the cost of the average standard thresher being claimed for it.

The company confines its attention to



WESTERN CANADA THRESHING COMPANY, MEDICINE HAT.
MALONEY PATENT THRESHER

scattered throughout the provinces at Medicine Hat, Macleod, Granum, Claresholm, Stavely, Parkland, Nanton, Caley, Brant, Vulcan, Champion, Carmangay, Noble, and Barons. Several important contracts for the supply of lumber have been successfully carried out, and the company is at present engaged upon the fulfilment of a contract to supply all the lumber required for the erection of the new Ogilvie Mill at Medicine Hat. This contract was secured at \$30,000. Raw material is obtained from British Columbia, except in the case of hard woods, which are brought from Eastern Canada.

The officers of the company are Mr. Peter Lund, president; Mr. John Brackenridge, vice-president; and Mr. George Wilson, secretary-treasurer.

particular in which this machine differs from others on the market is in the use for separating purposes of an endless screen in place of the series of shaking screens so frequently to be observed. It is claimed for the "Maloney" thresher that the same quantity of grain can be threshed in a smaller machine than is the case with other threshers. As a direct result less power is required. A small machine connected with the engine can be mounted on a truck and readily hauled through a field by a team of horses, the possibility thus being secured of threshing from the stook.

Another advantage which this thresher is said to possess is one that is likely to be appreciated by the farmer, since it can be operated at an angle either sideways or lengthwise, the levelling-up process, necessary with some threshers, being

the manufacture of the article described above. Mr. J. E. Davies is the president and general manager, Mr. H. C. Yuill the vice-president, and Mr. V. W. Parrish the secretary-treasurer.

WILLIAM WINKLER

The farm owned by Mr. Winkler is situated about 10 miles from Taber and an equal distance from Retlaw, and consists of 1,280 acres. On entering Western Canada from Iowa in 1909, Mr. Winkler purchased one section at \$21.50 per acre, a half-section at \$16 per acre, and a further half-section at \$15 per acre. The farm carries a framehouse with six rooms and telephone, and stabling for 18 horses and 30 head of cattle. Live stock consists of 15 horses, valued at \$3,500, and 20 head of

THE PRAIRIE PROVINCES OF CANADA

cattle, valued at \$1,000. Agricultural implements are to be found upon the farm in all forms. Amongst others may be mentioned a gasoline ploughing and threshing outfit, engine gang and engine disc, three binders, four gang ploughs, one sulky, three discs and three sets of drags. Seven wagons and two buggies, with a blacksmith shop, a gas pumping-engine, and oat-choppers and drills make up a very complete farming equipment. The value of the various implements owned

by Mr. Winkler has been estimated to reach \$7,600.

Of the farm, 720 acres are under cultivation, as follows :

Wheat (Red Fife) ...	450	acres
Barley	50	"
Oats (White Banner) ...	30	"
Feed corn	10	"

The remaining acreage is summer-fallowed. Of the granaries, two contain 4,600 bushels and 3,500 bushels respectively, whilst

three portable granaries hold 1,100 bushels each. About 10 miles of fencing have been erected, the entire farm, excepting two sides of one half-section, having been completed. Good water is to be obtained from two wells, 42 and 46 ft. in depth.

The farm owned by Mr. John Winkler consists of 320 acres, situated about seven miles from Taber, purchased in 1911 at a cost of \$30 per acre. It is entirely fenced and under cultivation.



BUFFALOES.



LOG JAM IN THE SPRUCE COUNTRY OF SASKATCHEWAN.

FORESTRY AND LUMBER

By CHARLES MCINTYRE, ASSOCIATE EDITOR, "WESTERN CANADIAN LUMBERMAN"



THE subject of forestry has been recently given a great deal of attention in the three central provinces. The Dominion Government sustains a forest patrol, but it is neither as efficient nor as well distributed as is the case in the provinces to the east and west. The tract of land to be covered is about 1,000 miles in length and ranges in width from 200 to 500 miles. Much of this land is at present unprotected, and the rangers have in many cases so large a territory to cover that they are unable to cover it thoroughly. In the year 1909 the whole district mentioned was more or less patrolled by 37 men. As a consequence of such conditions there have been many disastrous fires. Throughout the entire country to the north there are plain and conspicuous traces of great forest fires. It is recognized by scientific foresters that the prairies were once entirely wooded with heavy timber, which has been through the centuries gradually destroyed by forest fires which have raged unchecked through the dry seasons. The bare fringes which remain are but the relics of great, continent-wide forests. Lumbermen and foresters are constantly urging the need of more stringent measures for the protection of the spruce forests of the three Prairie Provinces, and the

result has been that the subject is receiving more attention, with a consequent betterment of conditions year by year. The investigations of the Forestry Branch of the Department of the Interior show that one-half the forests of Canada have been destroyed by fire, that for every foot of timber utilized 7 ft. have been burned, and that the timber destroyed by fire would have yielded a revenue of one billion dollars.

The matter of reforestation of the prairies has been the subject of study on the part of the Dominion Commission of Conservation. It has been established that the forestation of prairie country will never be practicable in a commercial sense, the land being too valuable for wheat growing and other agricultural purposes. The Dominion Government has established nurseries at different places where the science of tree-planting is demonstrated. Since 1901, 23,000,000 trees have been supplied free of charge to farmers for planting purposes.

It is often a matter of some surprise to visitors to the so-called Prairie Provinces to find that these provinces contain a number of firms of considerable financial importance engaged in the manufacture of lumber and carrying on logging operations on a large scale.

There could be, however, no greater contrast than that presented by the lumber manufacturing industry of Manitoba, Al-

berta and Saskatchewan and the same industry as it is carried on in British Columbia. Every one who has read of the coast province or who has visited it is aware of the great size of its timber, of the costly and ponderous equipment required to carry on the logging business, and of the huge type of gear and equipment that is required. In the Prairie Provinces, on the other hand, the merchantable timber is small, consisting chiefly—almost entirely—of spruce running in size from 18 to 20 pieces to the thousand feet, B.M., the latter being about the average. It is a common sight to see a double team of horses hauling 50, 60, or even 70 logs at a load.

The extent of this timber is very great in a territorial sense, but the industry of the three central provinces is of less importance than is the same industry in any of the other provinces of the Dominion, with the possible exception of Nova Scotia and the obvious exception of Prince Edward Island. Roughly speaking, the lumbering country extends in a long narrow belt from Hudson's Bay to the Rocky Mountains, this belt varying in width from 100 miles to 500 miles, and being broken here and there by the open prairie. The southern margin of this belt is clearly defined and has been thoroughly cruised and surveyed. The northern boundary is less well defined. It is claimed that beyond the boundaries of

THE PRAIRIE PROVINCES OF CANADA

the three provinces, in that great hinterland which stretches away into the frozen North, there are great forests of a fine class of merchantable timber. Stories of this nature have been brought back by numbers who have penetrated this wilderness, but the confirmation of these reports by a practical lumberman or forester is yet lacking.

So far the lumbering operations are confined to the long swathe of country already described. The less known country to the north will receive the serious attention of the lumberman only with the opening of railroads which will make its products available.

Manitoba is the most thickly wooded of the three Prairie Provinces. Its lumber industry is also the oldest, dating back for 35 years, when Winnipeg—then Fort Garry—was still a settlement. For a time the timber limits along the Red River were made the source of supply for the growing settlements in the vicinity, but the opening of the Canadian Pacific Railway in the early eighties brought the lumber from British Columbia and from the pine country of the extreme western section of Ontario. The best limits in the old province of Manitoba have long been cut out. The recent extensions of the boundaries of that province added to it a number of large sections of good timber land, taking in the eastern end of the spruce belt to which reference has already been made. One of the finest of these sections is in the vicinity of the town of Le Pas, where the Finger Lumber Company has recently built a large and modern sawmill. Le Pas is situated at the terminus of the Hudson's Bay branch of the Canadian Northern Railway, and it was the building of this branch that made possible the development of the timber country in that portion of northern Manitoba. It is known that two and perhaps three sawmill plants ranging in output from 20,000 to 40,000 ft. B.M. per day will be built in that section during the coming year.

The building of the Canadian Northern Railway opened up a vast stretch of spruce country. This, the second of our trans-continental roads, follows the course of the spruce belt north of the prairies. In conjunction with the Saskatchewan River and the northern and southern branches of that river, it has made the timber of a large and well-wooded country accessible

to the logger and sawyer. Closely following the opening of the Canadian Northern, a number of sawmills were built along the line of that road or on the streams and rivers which flow through adjacent territory. These mills range in capacity from the small rotary mill, sawing perhaps 15,000 ft. per day of ten hours, to the plant equipped with a band-mill and turning out from 50,000 to 60,000 ft. B.M. per day of lumber and 25,000 to 30,000 lath per day. The equipment of most of the plants of the latter type will generally be found to consist of a double cutting band-mill with the usual edger and trimmers and lath-mill. The carriage will be equipped with "gun-shot" feed. For the handling of the logs there will be provided a steam kicker and a steam nigger. The engine will probably have a capacity of from 225 to 250 h.p. Many of these plants are equipped with a resaw and planing machines, for the purpose of planing the stock in order to make it ready for the prairie market. The season's output at a plant of this size would total about 12,000,000 ft. B.M. The sawing season, which means the period during which the rivers are free of ice, is usually about six and one-half months in length.

This is but one type of plant; it is a favoured one with the lumbermen of the particular section under discussion, but there are many variations. The small portable sawmill is much in use in the spruce country of the Prairie Provinces. These small plants have a capacity of from 12,000 ft. B.M. to 15,000 or 18,000 ft. Their equipment usually consists of a rotary saw, trimmer and edger, together with engine and boiler, all of which is mounted on wheels to permit its being moved from place to place. In selecting a site for these plants it is necessary to have in sight a considerable quantity of timber, as it is of course not practicable to move about frequently. In the case of the portable plant the usual procedure is reversed—the mill is brought to the logs instead of the logs being brought to the mill.

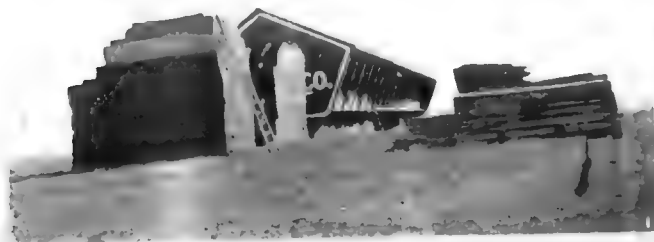
There are a few sawmill plants of a larger type than either of those described above to be found in the spruce country of the central provinces. An exceptionally large plant, which is situated in the heart of a country where the growth is thick and widespread, is that of the Big River Lumber Company at Big River, Saskatche-

wan. This project is backed financially by the Mackenzie and Mann interests, the builders and owners of the Canadian Northern Railway. This plant is said to be the largest spruce mill in the world. Colonel A. D. Davidson, of Winnipeg, is president of the firm, and A. M. Nanton is vice-president. This mill has a possible capacity per day of 550,000 ft. B.M., running day and night. The company cuts logs each winter to the extent of 100,000,000 ft., employing some 2,500 men in the work. The limits of the Big River Lumber Company cover a tract of 500 square miles. The land is thickly timbered with a growth comprising 90 per cent. spruce and 10 per cent. jack pine.

The growth of this northern spruce belt is different from the spruce of both British Columbia and of Ontario. It is not large, but it is clean and sound. It will run on an average about 20 pieces to the thousand feet. Occasionally a stick will be found measuring as much as 40 in. in diameter, but such sticks are not plentiful. One of the outstanding features is the soundness of the timber—a rotten log is rarely found. The wood is soft, flexible, easily worked and very white.

The methods of logging vary greatly in this territory from those followed in sections where the timber is of greater dimensions. The logs are "felled" with a saw or are twitched out with horses and hauled with sleds to the skidways on the banks of a brook or river or alongside the railroad track. If skidded beside the river they are left there to await the spring freshet, when they are driven down the streams to the mills. No heavy equipment is necessary for any of these operations, and in a financial sense it is a much easier proposition to carry on than would be the case if the timber were larger. The same applies to the sawmills in the spruce country. The machinery is less heavy, the mill itself is less ponderous in construction, and the work of logging and sawing, from the beginning in the woods until the lumber is on the market, calls for less outlay than is the case in the country where the huge timber is found.

By far the most important portion of the lumber cut in these provinces is cut upon Government lands. The charge made in this connection by the Government in each of the three provinces of Manitoba, Saskatchewan, and Alberta is 50 cents per



1. A TYPICAL LUMBER YARD ON THE CANADIAN PRAIRIES.
2. BUILDING THE SKIDWAY OF LOGS IN THE SPRUCE COUNTRY OF SASKATCHEWAN.
3. LOGGERS TAKING THEIR MIDDAY MEAL IN THE CANADIAN WOODS.
4. LOG POND AND MILL, RED DEER, ALBERTA.

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thousand board feet on all the logs cut and \$5 per year per square mile on all the land held under licence.

To turn from the manufacturing part of the lumber business in the provinces of Manitoba, Saskatchewan, and Alberta to the market or selling portion, a greater contrast is found. The lumber trade of these provinces is very great. The lumber manufacturing operations which we have been describing fall far short of supplying the demand of the prairies. How great that demand is may be roughly conjectured when it is remembered that practically all buildings in the three provinces have been erected within the last 35 years. The immigration pouring in from many countries, the great railway development, the increasing territory under cultivation and the consequent building needs, the rapid expansion of business and industrial concerns—all these elements tend to increase the demand of the Prairie Provinces for manufactured lumber.

To satisfy that demand the mills of Western Canada, taking in that territory from the Great Lakes to the coast of the Pacific, in the year 1911 produced 1,573,000,000 ft. B.M. In addition to this quantity 112,000,000 ft. B.M. was imported from the United States. The prairie is supplied from four different directions—from the pine mills of Western Ontario on the east side, from the mills of British Columbia on the west, from the United States on the south, and from the spruce mills in the northern spruce belt.

The lumber trade of the prairie is the foundation of a vast and widespread system of buying and selling, producing a great trade fabric which includes among its integral parts an army of salesmen, scores of brokers and representatives of sawmilling concerns, and, last but not least, hundreds of yards that dot the prairies in ever-increasing numbers.

In this chain the retail lumber dealer or yardman forms the last connecting link with the consumer. Many yards are controlled by individuals, while others, to the number of from five to one hundred are owned and controlled by companies. In the vocabulary of the trade the former, or individual yardmen, are known as "independent dealers," while the firms which control large numbers of yards at different points are known as "line-yard firms." The head offices of these line-yard concerns are invariably located in large cities, the yards being

situated at points along the railroad, each yard having its own manager.

Speaking in a general way, the larger towns and cities are the centres through which the supplies for the yards are distributed. Just as in other lines of business the larger centres of population are the financial centres, so in the prairie the lumber trade is built up about a number of distributing centres where the business of buying and selling is done. The most important of these centres are located at Winnipeg, Regina, Saskatoon, Moose Jaw, Calgary, and Edmonton. At each of these points the head offices of a number of the line-yard concerns, the most important of the distributing media of the prairie lumber trade, have been established. Here will be found the offices of the representatives of the mills of British Columbia, of the pine country to the east and the spruce country to the north. At these points are located the headquarters of numbers of brokers or wholesale dealers, numbers of independent retail dealers, and many representatives of the classes known as travelling lumber salesmen, lumber-jacks, and "the boys on the road," many of whom have no permanent headquarters and carry their offices in their hats, but who, none the less, form one of the most important distributing agencies in the prairie lumber trade.

The lumber is cut into many different sizes and grades in order to qualify for the needs of the prairie trade. The line known as "common dimension" consists of 2×4 , 2×6 up to 2×12 and similar sizes in 3-in. stock. Flooring is entirely 1-in. and $1\frac{1}{4}$ -in. stock. Ceiling is sawn in $\frac{3}{4} \times 3$, 4 and 6, and the same widths in 1-in. stock. "Drop siding" is 1×4 , 1×6 , and 1×8 . "Bevel siding" is $\frac{1}{2} \times 6$ in. "Finishing and boards" includes 1 in., $1\frac{1}{4}$ in. and $1\frac{1}{2}$ in. in even widths from 4 in. up to 12 in., also 2-in. stock, even widths, from 2×4 to 2×12 . "Shiplap" is sawn in 1×6 , 1×8 , 1×10 , and 1×12 . These are the principal lines as regards sizes. All the lumber is planed on one or both sides before being marketed, and some is beaded or tongued and grooved. The sizes given apply to the lumber while in the rough, before being dressed by the planers.

The year 1912 was a most eventful year in the history of the lumber trade of the prairies. The end of the year found the business and industry on a plane as

regards values entirely different from that of the beginning of the year. For a number of years the values in the lumber trade of the Canadian prairies have been of such a nature that manufacturers very often asserted, and no doubt with cause, that they made little or no profit. Prices were prevented from rising by the competition of lumber shipped into the prairies from mills in the United States, chiefly from the States of Washington and Oregon. The demand in the United States having been limited for a number of years, the lumber manufacturers on that side of the line were continually overstocked, a condition which they sought to remedy by shipping their lumber to Canada, quoting a price lower than that which prevailed in their own country. An instance of this might be cited in the case of common dimension, for which a good average wholesale price might be said to be \$21 per thousand feet, B.M. Hundreds of cars of this line were shipped into Winnipeg and other Western Canadian cities at from \$16 to \$18 per thousand. As long as this cheap lumber from the United States was available, the Canadian manufacturers of lumber were unable to raise their prices.

The change came in August, 1912. It began to be apparent that the crops in the United States would be above the average and business conditions began to improve rapidly. The lumber trade showed the improvement at once. The manufacturers raised their prices, and the demand was soon so great that they were no more than able to fill their orders. This condition relieved the Canadian markets of the influx of cheap lumber and the manufacturers were able to raise their prices, which they immediately did. Similar conditions prevailing on the Canadian side to those which had brought about better conditions on the American side, the Canadian mills were practically all sold out by the end of October, and, in the face of an extremely heavy demand from the prairies, many of the British Columbia mills were obliged to decline all orders for a period varying from a week to two months. The prices of lumber at the present time have an upward tendency, and there is little doubt that the opening of spring business—which takes place about the middle of March, with the cessation of the cold weather—will see a higher schedule of prices throughout.

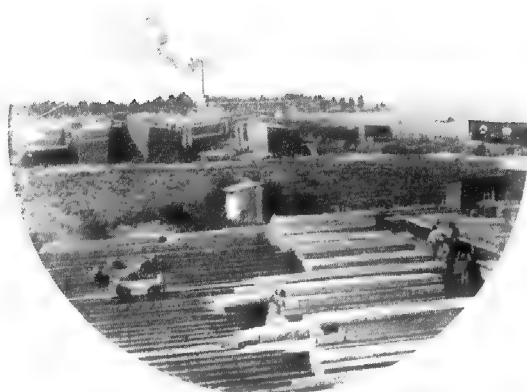
The importation of lumber from the

FORESTRY AND LUMBER

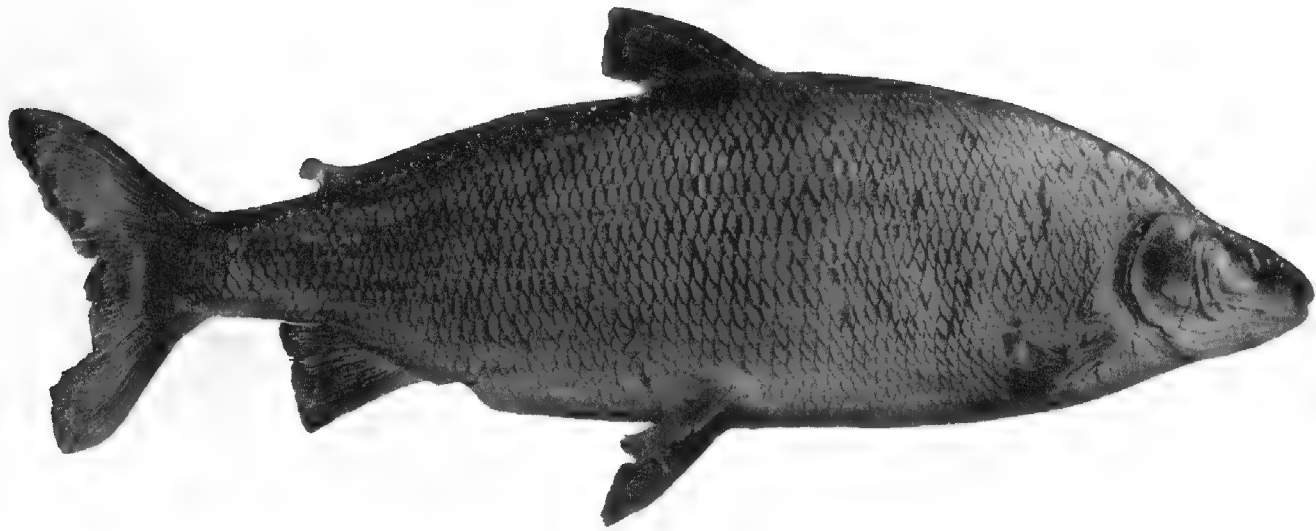
United States was the cause of a constant agitation on the part of the lumber manufacturers of British Columbia, who desired protection by means of a tariff. It was claimed that much of the lumber brought in was dutiable, as the law distinctly read sawn lumber dressed on one side only "but not further manufactured." It was in regard to the interpretation of the last clause that the manufacturers made objec-

tion, it being argued that much of the lumber brought in free had been first dressed on two sides or edges and later roughed up on one edge to bring it within the limitations of the Canadian tariff. The manufacturers claimed that the process of roughing constituted "further manufacture." A test case was brought by a wholesale lumber dealer who had been obliged to pay the duty upon a car of

lumber of this type. The wholesaler lost the case in the Exchequer Court of Canada, but appealed to the Supreme Court of Canada and gained a favourable verdict. Since that time the customs authorities have made no effort to collect upon this class of lumber, all lumber that is rough or planed on one side only being admitted free.



A TYPICAL SAWMILL AND YARD IN THE SPRUCE COUNTRY OF THE PRAIRIE PROVINCES.



MANITOBA WHITEFISH.

FISHERIES OF MANITOBA

By J. B. HUGG, MANITOBA FISHERIES COMMISSION



Y commercial fishing is meant operations carried on for the purpose of procuring fish for market, as contrasted with fishing for sport, or for domestic food sup-

plies. Commercial operations in Manitoba fall into three distinct groups; (a) autumn fishing, carried on from skiffs; (b) winter fishing, carried on through the ice; (c) summer fishing, carried on principally from tugs and sailboats and in part from skiffs.

The Waters.—The waters of Manitoba prior to the extension of the boundaries in 1912 formed about one-fifth of the total area of the province, aggregating over 14,000 sq. miles. Since the extension of the boundaries, the Saskatchewan and Nelson Rivers, with numerous interior lakes and the waters of Hudson's Bay, must be included in any survey of the fishing grounds of the province. The following are the principal waters:

Lake Winnipeg ...	...	9,460 sq. miles
Lake Winnipegosis ...	...	2,086 "
Lake Manitoba ...	...	1,775 "
Lake Dauphin ...	...	196 "
Lake St. Martin ...	...	125 "
Swan Lake ...	...	121 "

Shoal Lake ...	...	102 sq. miles
Waterhen Lake ...	...	76 "
Dog Lake ...	...	64 "

Lac du Bonnet, Moose Lake, Cedar Lake, Saskatchewan River in Manitoba, Playgreen Lake, Nelson River, Hudson's Bay, Little Saskatchewan River, Red River, Cross Lake, Southern Indian Lake, Island Lake, God's Lake.

The waters in the new area have not yet been fished to any extent, owing to the absence of transportation facilities which would enable the fish to be readily carried to market. The northern lakes and rivers are said to teem with fish. In all the pristine abundance which at the advent of settlers marked the waters of the older portion of the province, Hudson's Bay is said to have splendid fisheries, and in addition whales are said to be numerous. The latter have been taken in former years by vessels sailing from Great Britain and the New England States. It is expected as soon as the railway is completed through Manitoba to a port on Hudson's Bay that a large fishery will spring up, and that the catch will be sent through interior Manitoba to the larger markets. The larger fishing operations in the past have been on the interior lakes and rivers. When settlers first entered Manitoba all the lakes abounded with fish to such an extent that it is hard to

credit the accounts given by early fishermen of their enormous catches. The great area of these interior fresh-water lakes and rivers, combined as it is with all the conditions for an abundant fish supply, make it inevitable that under proper regulations a prominent and profitable fishing industry can be developed in Manitoba. This will give direct support to a considerable population directly depending thereon, and will provide a staple food supply for the home market and for export, which will materially increase the resources of the country. The Manitoba winter, which puts an absolute end to the operations of the agriculturist and throws upon the breeder of live stock and the dairyman additional burdens of housing and feeding, ushers in upon the surface of these lakes and rivers operations as certain and profitable as those carried on during the summer months upon land, and affords valuable winter employment to settlers and labourers resident in the vicinity of the lakes. On the other hand, the summer operations employ capital and large numbers of men who may be termed professional fishermen, since they follow their business throughout the year.

The Fish.—There are several varieties of coarse fish caught in the Manitoba waters. These fish have been uniformly destroyed

FISHERIES OF MANITOBA

when caught, because the English-speaking population will not eat them when better varieties of fish are available. In addition, most of the coarse fish are destructive to other species and their destruction has been considered advisable. The principal varieties are the tullibee, the pike or jackfish, the catfish, the buffalo fish, the sucker, the bass, and others.

The pike is a powerful fish, very destructive to small fish of all kinds. The sucker is equally destructive, as it preys upon the spawn of other fish whilst the spawn is lying unhatched on the breeding-grounds. The large peasant population now resident in Manitoba, drawn from Central Europe, supplying rough labour to all branches of construction, has created the demand for these coarser fish. Already large quantities are being shipped to the Winnipeg market. As an article of food they are nutritious and wholesome when caught while the waters are cool. Now that a market has arisen for these coarser fish, their removal from the waters cannot but have a beneficial effect on the higher grades of fish, as the latter have not only to contend with the destruction carried on by the fishermen, but also with the constant ravages of the destructive jackfish and suckers.

The tullibee mentioned above is not found in Eastern waters. It belongs to the whitefish family, but is altogether inferior in both quality and size. It is also very frequently affected with a parasitic worm, even in winter-time. It resembles the fresh-water herring in size and appearance, but is a little more stocky. These fish are very plentiful in the southern part of Lake Winnipeg.

The better fish sought for market are the pickerel, the whitefish, the sturgeon, and the goldeye. These fish were formerly very abundant in the waters of the older portion of the province, and except in the case of the sturgeon (which is rapidly becoming extinct), their numbers are rapidly increasing. This has been due to the regulations adopted in recent years. The minimum size allowed to be caught are: pickerel, 1½ lb.; whitefish, 2½ lb.; sturgeon, 18 lb. The extreme weights which these fish have been known to reach are: pickerel, 7 lb.; whitefish, 15 lb.; sturgeon, 200 lb. A few years ago there was general alarm in Manitoba over the extent of the fisheries, but investigations conducted by the Government dispelled these fears, except in the case of the

sturgeon, which as yet it has been impossible to raise in hatcheries.

The goldeye is a true fresh-water herring, and abounds in the lakes and rivers of Manitoba. It is a small fish weighing about 1 lb. when matured. The smoked goldeye has a texture like trappist cheese, and a delicious flavour, and when fried forms a most tempting breakfast food. It has become noted as a distinct Manitoba dish, and the traveller who fails to sample goldeye smoked in oak, as prepared by the leading chefs of Winnipeg, has missed one of the pleasures of his visit to Manitoba.

The Lake Winnipeg whitefish differs from the other varieties found in Manitoba waters by its size and fineness, and is in great demand eastward from Winnipeg to New York. The 18 lb. specimens frequently constitute, as planked whitefish, the dish *par excellence* at banquets in Chicago and New York, and the demand for them is so great that Manitobans seldom see the larger fish offered for sale in the Winnipeg markets.

The sturgeon, however, is easily the most desirable fish captured in Manitoba, and its roe in the form of caviare is a rare and expensive delicacy. Owing to the almost complete extinction of this fish in the waters of older Manitoba, it is now difficult to procure it on the Winnipeg market. Sturgeon steaks command 20 cents per lb., as against 12 cents for whitefish and 12 cents for pickerel, 25 cents for B.C. salmon, and 15 cents per lb. for B.C. halibut.

Settlers on the Red River at Selkirk state that sturgeon used so to abound in the Red River that on a single evening many large specimens weighing from 150 to 200 lb. could be seen leaping from the water and falling back on the surface with resounding slaps audible from a long distance.

The pickerel is a favourite fish, and the fillets cut from this fish without bones are in great demand on the Winnipeg market, bringing 30 cents per lb.

Fishing Operations.—Autumn fishing is conducted chiefly in the Red River and the south end of Lake Winnipeg, and is devoted principally to the catching of pickerel and coarse fish. It is carried on chiefly by settlers, who are now becoming fairly numerous on the shores of the above waters. The operations are conducted by means of gill nets, from small skiffs, and the fish when caught are kept in local freezers on the shores of the lake. These freezers are frequently operated on

the co-operative plan. The tullibee is principally caught in the autumn. The autumn fishing is not very greatly carried on, being confined to the limit of the waters above mentioned by the fact that if it were allowed elsewhere, injury would result to the whitefish.

Winter Fishing.—As soon as the lakes and rivers of Manitoba are frozen up, fishing operations commence through the ice. All varieties of fish are allowed to be taken, but the principal varieties captured are pike, pickerel, and whitefish. The latter, being the most valuable fish, is the most sought after. Each individual fisherman is allowed 200 yards of gill net, and is granted a licence, specifying the locality in which he is allowed to fish. The operations are carried on along the shores and bays of the three principal lakes, the Manitoba, the Winnipegosis, and the Winnipeg, and in the mouths of the larger rivers. The nets are suspended beneath the ice and are drawn up daily, when the catch is removed and packed in boxes. A large number of teams are employed in transporting the fish to the nearest railway-station, and in taking in supplies to the fishermen. In the more northerly districts dog trains are employed for this purpose. Fishermen leave the fishing-villages for the more northern fishing-grounds at the south end of the lakes in the autumn. They take with them supplies and dogs, and it is an interesting sight to see a large steamer crowded with men and dogs, and piled with nets and fishing-gear and supplies of all kinds, as it makes a final trip to the northern waters just before they are frozen.

Summer Fishing.—Summer fishing is only permitted on the northern end of Lake Winnipeg. Jackfish and whitefish are the varieties caught. The whitefish is of course the principal object of the operations. The headquarters of the summer fishing are at Selkirk and Gimli. From these ports a fleet of tugs and sailboats sets out for the northern waters at the opening of the season. At suitable places fishing-stations have been established, comprising a large freezer, ice-house, boarding-houses, &c., and through the winter the ice-houses are filled. Each tug is allowed to fish 10,000 yards of net, and each sailboat 2,000 yards. The sailboats are towed from the fishing-stations to the fishing-grounds by the tugs, each tug towing out 10 sailboats arranged in two lines of five each; each sailboat is manned by three fishermen. It is an interesting

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sight at sunrise at Warren's Landing or Black River to see the fishing tugs, each with its double line of sailboats, leaving for the fishing-grounds. On arrival at the grounds the sailboats cast off, and tugs and boats proceed to draw up the nets which have been in the water all night. Each sailboat and tug is provided with a supply of ice, so that the fish as they are taken from the water can be immediately packed in ice. The nets are immediately reset, and the boats return to the fishing-station. If the wind is favourable, the sailboats run in individually, as they finish landing their nets. If unfavourable, they are brought in by the tugs. The fishermen in each boat, on arrival, clean their fish and receive credit for the net weight. The fish are immediately washed, placed in pans and frozen in the freezer, and are subsequently packed in boxes and shipped in refrigerator boats and cars to the most distant markets.

The fishery has, under the regulations recently adopted, been steadily improving. It is not unusual for a sailboat to lift out of a single 2,000 yards of net 3 tons of fish at one lifting, but of course the average catch does not by any means approach this quantity. The total catch allowed during summer on Lake Winnipeg is 2,500,000 lb. This has the effect of steadying the price and protecting the fishery at one and the same time. The summer opera-

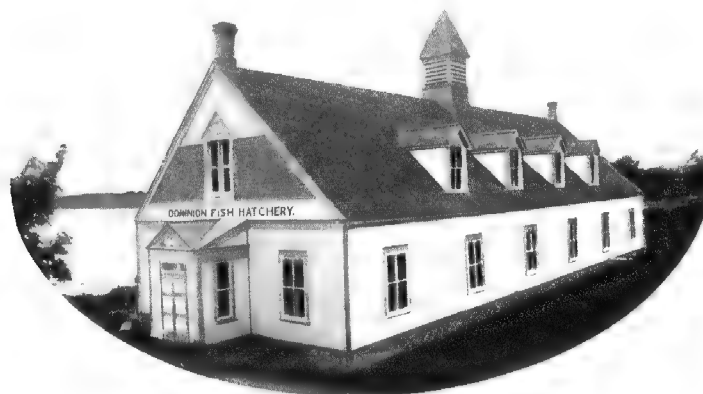
tions are producing a very hardy and splendid type of sailor in the lake towns of Manitoba.

The Regulations.—The fisheries of Manitoba are under the direct control of the Dominion Government, and are within the jurisdiction of the Minister of Marine and Fisheries. As they form a very insignificant part of the fisheries of Canada, they have not until recently received the attention which their productivity calls for. Considerable objection arose a few years ago respecting the alleged exhaustion of the fisheries, and a Commission was appointed which spent a great deal of time in investigating the state of the fisheries and reporting thereon. This Commission reported that while there had been overfishing, the fears of the public, except in the case of the sturgeon, were not well founded; but made a number of recommendations advising restriction of the catch, increase in the length of nets, closer supervision of the industry, and enforcement of the regulations. The Government acted on most of the suggestions made by the Commission, with the result that the industry now appears to be established on a permanent basis. The size of the fish caught is reported to be gradually increasing, a sure sign that the fishery is improving.

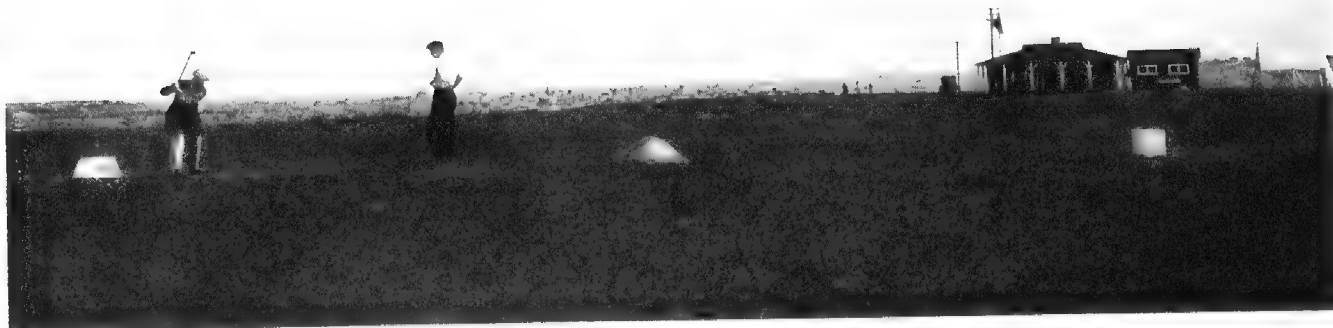
Hatcheries.—A very important work is carried on by the Government hatcheries, which are established at numerous points

throughout Manitoba. The spawn of fish is gathered at the proper season and hatched out in the hatcheries under conditions approaching as near as possible those which naturally exist in the lake itself. The fry, when hatched, are pumped into the lake. The hatchery in reality constitutes a nursery where spawn can be hatched out free from the attacks of suckers and other fish which feed upon it as it lies unhatched on the spawning-grounds. In addition to hatcheries there are large acres known to be favourite breeding-grounds, where fishing is absolutely forbidden. These form sanctuaries for the fish, and are believed to contribute very materially to the maintenance of the supply.

Biological Investigations.—There has been as yet no scientific survey of the forms of life existing in the waters of Manitoba, and very little is known of the life-history of the various species of fish which are caught in these waters. For example, it is not known at what age the whitefish begins to spawn, and there is some doubt as to whether the sauger is a distinct variety of pickerel or simply a young pickerel. The Commission above referred to strongly recommended the Government to establish a biological station in Manitoba, where Sir John Murray, who has devoted himself to the study of the Scottish lakes, has expressed the view that there is a most important field for scientific investigation.



FISH HATCHERY, SELKIRK, MANITOBA.



THE GOLF LINKS, CALGARY.

SPORT

By PHILIP MORRIS



THE visitor to Western Canada need anticipate no lack of wholesome amusement. Sports are extensively indulged in, and in the larger towns and cities almost every taste is catered for. Amongst the games most generally enjoyed may be mentioned cricket, football, baseball, lacrosse, curling, hockey, golf, rowing, and horse-racing. Big-game shooting can be briefly dismissed with the remark that the northern districts of the Prairie Provinces afford sport such as is to be found in few parts of Canada.

In so far as keenness, energy, and determination to win are concerned there is little to choose between the athletes of Canada and the athletes of the British Isles. Here, however, the similarity ends. The spirit in which the public school man plays games is incomprehensible to a large class of athletes in the Dominion, and is unappreciated by many spectators, or "fans," as they are called on the North American continent. The success of Americans in athletic events is due in no small measure to what we may term an over-developed desire to win. From this craving for victory, however purchased, there arise many evils, some of which have spread beyond the International boundary. Lacrosse and ice hockey matches are often interrupted by unnecessary injuries and even fistic encounters. During the past

few years, however, a greater restraint has been noticeable, and the efforts of the better Canadian sportsmen to rid their athletic contests of undesirable features are beginning to bear fruit.

Cricket

Cricket in Alberta, Manitoba, and Saskatchewan is played under the auspices of the Western Canada Cricket Association, which was formed in 1910, when the cricketers of the three provinces assembled in Winnipeg to compete in the first annual interprovincial tournament. The first president was the Hon. T. Mayne Daley, but in 1912 the position was accepted by Sir H. J. Macdonald, at that time Mr. H. J. Macdonald, who for thirty years has been president of the Winnipeg Cricket Club. Sir Hugh J. Macdonald is an enthusiastic supporter of the game, which, in Western Canada, owes much to his interest and help. The honorary secretary to the association is Mr. A. R. Morrison, the Playgrounds Commissioner of Winnipeg, who is also honorary secretary to the Canadian and Winnipeg Cricket Associations.

In so wide an area as is occupied by the Prairie Provinces of Canada it is not easy for a central association to act as arbiter on purely local questions. It has therefore been deemed expedient to form a series of minor associations. In every town where three or four clubs exist there has been formed a local association which is affiliated

with a provincial association. The latter is in its turn affiliated with the Western Canada Cricket Association, and the Western Canada Cricket Association with the Canadian Cricket Association. The game is played under M.C.C. rules.

Like most pastimes of its kind, cricket is seriously handicapped in Western Canada by the lack of suitable playing areas. In Winnipeg the situation in this respect is better than in some Western cities, there being seven or eight grounds in various parts of the town. The new arrival from England, however, is apt to look askance at the wickets, which do not at first seem conducive to good batting. The use of coconut matting remedies this defect very largely, and although the movements of the ball are occasionally erratic, the game is frequently played under worse conditions in Great Britain.

The standard of skill is rapidly improving. The majority of Western cricketers have learnt the game in the Old Country, and among them will be found several who have figured in former county teams, and not a few who have played with the leading clubs throughout England. More and more public school and university men are coming to Canada, and it should not be long before the cricketers of the Dominion are competing successfully with the best players in England, Australia, or South Africa. International games are played between Canada and the United States, the West having four representatives

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in the Canadian team that visited the States in 1912. During that year the Australian team, which had been touring in England, travelled across Canada on its way home, playing several matches en route. Winnipeg made an excellent fight, and, although beaten, found nothing but encouragement in the result. Another Australian team, containing several of that colony's finest exponents of the game, toured the country during the summer of 1913.

The league system is very popular in the West, and gives an interest to the game which is frequently lacking in "friendly" matches. In 1912 there were two leagues in Winnipeg, a senior and an intermediate, the latter being divided into two divisions. The championship of the senior league, for which eight teams competed, was won by the Wanderers, who only suffered two defeats throughout the season. They were closely followed by the Winnipeg Club. Each division in the intermediate league contained six teams, the playing strength of the city, therefore, being 220 at least. During 1913 the leagues have been reorganized. The senior league now consists of six clubs—the Wanderers, Winnipeg, Civics, Canadian Pacific Railway, Young Conservatives, and St. Jude's, an arrangement which equalizes the standard of play and will largely eliminate contests of a one-sided nature. A new association has also been formed, bearing the name of the Selkirk County Association. The active participants in the game have, during 1913, increased to about 300. At Calgary three clubs compete during the season, the summer of 1912 seeing the Calgary Club at the head of the list. Edmonton, though a slightly smaller town, has a larger cricketering population, and the Hudson's Bay Company carried off the championship in 1912 in face of the competition of four other teams. Regina and Brandon have three and four teams respectively, while nearly all the other towns in the three provinces have one or more.

The interprovincial annual tournaments form an event of great interest each year. The first, which was held in Winnipeg in 1910, resulted in a win for Manitoba. In 1911 the contest was held at Indian Head, Saskatchewan, and Saskatchewan succeeded in ousting Manitoba from its position. In 1912 Calgary was chosen as the rendezvous, and Alberta provided the successful team. It will be noted that in

each year the home team has won the championship. The same rule held good in 1913, when the tournament was held in Winnipeg and won by Manitoba.

Curling

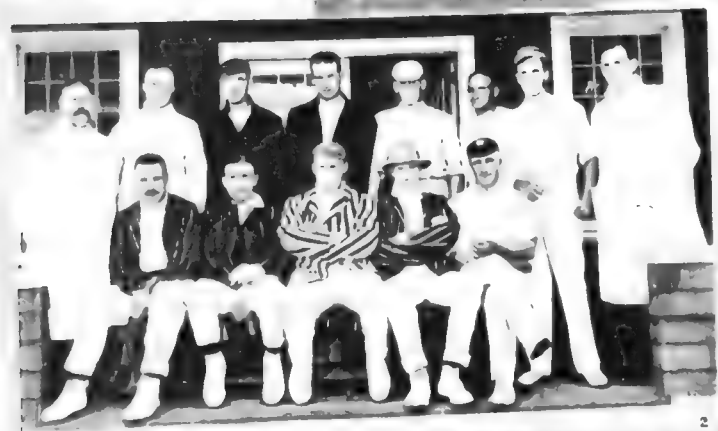
During the long Canadian winter no game in Canada attracts so many active disciples as the ancient Scottish game of curling. Previous to 1888 the number of clubs existing in the Western provinces was very limited, but in that year a few of the more enthusiastic players held counsel, and a convention of curlers was called at Winnipeg. As a result it was decided to form in Manitoba a branch of the Royal Caledonian Curling Club.

The first annual bonspiel was held in 1889, one year after the formation of the Manitoba Association, and 31 rinks competed. Since that date the game has increased in favour at a rapid rate. Branches of the Royal Caledonian Club have been formed in Alberta and Saskatchewan, and there are few towns of any importance in which one or more clubs have not been formed. The principal clubs throughout the three provinces are: Union Terminal Club, Winnipeg (100 members); Thistle Club, Winnipeg (190 members); Strathcona Club, Winnipeg (160 members); Granite Club, Winnipeg (180 members); Assiniboine Club, Winnipeg (90 members); Souris Club, Manitoba (80 members); Regina Club, Saskatchewan (150 members). Many of the other clubs have a membership of between 40 and 60, the total number of clubs in the West affiliated to the Manitoba Association, which includes the branches in Alberta and Saskatchewan, and various clubs in Ontario, British Columbia, and the Northern United States, being 123, with an aggregate of over 4,200 members. At the bonspiel in Winnipeg in 1911, 275 rinks competed. These included seven rinks from Scotland. The trophies offered for competition at the annual bonspiel are numerous and valuable. In 1911 the Dingwall Trophy was won by a rink of the Winnipeg Thistle Club; the McLaren Cup, by a rink of the Winnipeg Granite Club; the Tetley Tea Tankard by a rink of the Winnipeg Strathcona Club; the Purity Flour Challenge Cup by a rink of the Winnipeg Thistle Club; the Walker Theatre Trophy by a rink of the Winnipeg Thistle Club; the Tuckett Trophy by a double rink of the Neepawa Club, Neepawa, Manitoba; the Royal Caledonian Tankard,

presented by Lord Strathcona, by a rink of the Winnipeg Strathcona Club; the Blue Ribbon Trophy by a rink of the Winnipeg Thistle Club; the McMillan Cup by a rink of the Winnipeg Civic Club; the Whyte Cup by a rink of the Winnipeg Thistle Club. The Black-Girvin diamonds, offered for competition to veterans of the age of sixty or over, by a rink of the Winnipeg Strathcona Club. The Cup presented by Earl Grey for the highest aggregate was won by a rink of the Winnipeg Thistle Club. It will be noticed that in nearly every case one of the Winnipeg clubs was successful in capturing the trophy, and there is little doubt that the curlers of Winnipeg surpass the curlers of any other Western town in their enthusiasm for and skill at the game. In this connection, mention should be made of the success achieved by the Canadian team which visited Scotland in 1909. Twenty-five matches were played, and of these twenty-two were won by the Canadians. The Scotsmen were defeated in all three Test matches.

Lacrosse

It is a matter for regret that the national game of Canada receives so poor a measure of support in the Prairie Provinces. At the very beginning of the twentieth century lacrosse was one of the most popular of summer sports, and under the auspices of the Western Canada Lacrosse Association the standard of skill became very high. In Winnipeg, one of the stronger leagues in the West comprised three teams, the Shamrock, Mintos, and Winnipeg, and a team from Souris, Manitoba. The skill of these teams roused local enthusiasm to great heights, but, as in the case of hockey, the professional element entered the game and the public interest was lost. Scant support was accorded the game under the new conditions, and lacrosse has never wholly recovered from the effects. From 1905 to 1910 the only team of any consequence was that of the Canadian Northern Railway, which, despite the lack of opponents and the indifference of the sporting public, kept the game from becoming entirely extinct in Winnipeg. It was largely owing to the efforts of this club that, in 1910, the Winnipeg Amateur Lacrosse Association was organized. Two leagues, a junior and a juvenile, were formed, the former comprising seven clubs and the latter four. The age and weight



1. UNITED, WESTERN, FOOTBALL CLUB, WINNIPEG AND DISTRICT LEAGUE CHAMPIONS.

2. MANITOBA CRICKET TEAM, WINNERS OF INTERPROVINCIAL CHAMPIONSHIP, 1913.

3. SPORT AT EDMONTON.

4. GOLF AT JASPER, ALBERTA.

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restrictions which were imposed confined the game to the younger athletes of the city. Players in the junior league had to be under twenty-one years of age, while those of the juvenile league were under seventeen and weighed not more than 130 lb. The Canadian Northern Railway team succeeded in winning every game in the junior league, but were disqualified owing to an infringement of the age regulations. In 1912 an intermediate league was formed, consisting of five teams—the Winnipeg, Canadian Northern Railway, Fort Rouge, Young Conservatives, and Winnitoba. The Canadian Northern Railway team proved far too strong for their competitors, and won the Freeland Trophy with ease. The Winnipeg Club won the junior league in 1912, while the juvenile honours fell to St. Matthew's. At the end of the season the Canadian Northern Railway went to Vancouver as challengers for the Donald Mann Cup, emblematic of the world's amateur championship. They were beaten rather easily, however, by the holders, the Vancouver Amateur Lacrosse Club.

Apart from the set-back it received when professionalism entered the game, lacrosse has suffered, in common with other sports and games in Winnipeg, through the lack of suitable playing areas. But for the generosity of the Manitoba University and the Public School Board in lending their playing fields, lacrosse would have been even more restricted than it is. A revival of interest in the game took place in Saskatchewan in 1912, when delegates from all parts of the province met in Saskatoon and organized the first Saskatchewan Lacrosse Association, thus bringing the various clubs of the association under one organization.

Rowing

Although rowing is a favourite pastime on all the rivers and lakes in the three Prairie Provinces, there have been formed but few clubs which take the sport seriously. At Selkirk and Portage La Prairie in Manitoba and at Regina in Saskatchewan clubs have been organized and race meetings held on a small scale, but it has been left to the Winnipeg Rowing Club to uphold the honour of the middle West in this branch of sport.

Established many years ago, the Winnipeg Rowing Club occupies a leading position among similar organizations on

the American continent, and almost ranks in skill with the best of the English clubs. As long ago as 1897 it was considered strong enough to justify a visit to Henley. The English crews proved too good for the Canadians, however, and they returned to Winnipeg defeated. A second visit in 1904 had a similar ending, but in 1910 the tables were turned, and the crew returned to their home town as winners of the Stewards' Cup. Encouraged by this triumph, the club redoubled its efforts, and in 1912 achieved a greater measure of success than at any time in its history. The majority of the events in the North-Western Regatta, held on the Red River, were won by Winnipeg; but it was at Peoria, Illinois, that the club covered itself with glory. At this regatta many of the finest crews of America competed, but time after time were defeated by the representatives of the Canadian club. Practically every event was won by the Winnipeg crew, who returned to Winnipeg the triumphant possessors of eight cups, 23 medals, and nine banners. It is doubtful if any crew has ever achieved so complete a success at a regatta of such importance, and it was regretted by all Canadian sportsmen that the crew were unable to cross the Atlantic and compete with the leading English crews at the Henley of 1912. There appears to be nothing to stop the Winnipeg Club from being the first winners of the thousand dollar trophy recently offered by Sir Thomas Lipton for competition among international crews. The first race for this trophy is to be rowed on the Red River as a compliment to the Winnipeg Club for its fine achievements.

Mention may here be made of the Winnipeg Canoe Club, one of the most popular athletic associations in the Western metropolis. A really fine club house has just been completed on the banks of the Red River, and the fortnightly regattas attract large numbers of competitors and spectators.

Association Football

The Old Country football player who intends settling in Canada need have no fear that he will be deprived of playing his favourite game, as it may safely be said that Association football is the most popular game in the West. Large crowds of spectators are indeed attracted to hockey and baseball matches, but in the matter of active participation Association

football easily leads the way. At present the game is mainly played by the emigrant from the United Kingdom, but in the elementary schools considerable enthusiasm is being aroused, and in a few years many hundreds of Canadians will also be playing. Practically every town of a few hundred inhabitants has a club, and in each of the three Prairie Provinces a provincial league has been formed. In Winnipeg numerous clubs compete in the various leagues, and the competitions are productive of some excellent football. The senior division of the Winnipeg and District League was won in 1912 by the Norwood Wanderers, who gained two points more than the Celtic Club. The latter club, however, were successful in winning the championship of Manitoba, and a Winnipeg team, the Union Terminal Club, also won the intermediate championship of the province. In a recent tour of the London Corinthians a picked team from Manitoba put up an excellent fight, and were only defeated by a penalty goal to nil, a result that speaks volumes for the standard of football in the West. Many of the players, in fact, have appeared in first-class football at home. During 1912, however, Manitoba did not have the strongest team in the West, that distinction being claimed by South-West Alberta. It is in the numerous towns in that remote corner of Canada that Association football has probably reached its highest level. The majority of the teams are comprised of hardy colliers who learned their football in the mining towns at home and carried their love of the game with them to the land of their adoption. The People's Shield, a trophy presented by the English weekly paper of that name, and symbolic of the Dominion Championship, was won by Lethbridge, who defeated Fort William, Ontario, by three goals to nil. In other parts of the West the standard of play is perhaps not so high, but the game is equally popular. At Calgary the Hillhurst and Caledonian Clubs are probably the strongest organizations; while in Saskatchewan, Prince Albert, Regina, Saskatoon, and Moose Jaw all have excellent teams. The game has perhaps obtained a stronger hold in Alberta than in Saskatchewan. Red Deer, Alberta, is noted in the sport's world for its football, while several clubs have been formed at Edmonton.

Recently the Dominion Football Association has been formed, and the Duke of

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Connaught has presented a cup for competition among teams affiliated with the association. It may be added that at present Old Country professional players are barred from playing amateur football in Canada, but it is the intention of the new association to make such new laws as will permit them to enter the field as amateurs.

Rugby Football

Rugby, both in Eastern Canada and the Prairie Provinces, is mainly played under widely different rules to those which govern the game in other parts of the British Empire, although it is said to be modelled on the lines of the older game. Many of the latter's most attractive features have been discarded, however, and the substitutions are not all for the better. There is little of that combination which has made the fame of the Welsh teams, and one rarely sees the brilliant individual runs that characterize some of the leading players in England, Scotland, and Ireland. In Eastern Canada the passing game is nowadays receiving more attention than was formerly the case, but both there and in the Prairie Provinces more dependence is placed upon the ability of a player to force his way through the opposition by sheer weight and strength. The game therefore, mainly consists of a series of short dashes, a few yards being gained between each successive scrimmage, as the Canadian equivalent for a scrum is termed. The scrum as understood in the English game has been abolished, as has the "throw in" from "touch." Each game is divided into four quarters, each consisting of 15 minutes. At the end of each quarter the teams change ends.

There is much to be said for the Canadian method of scoring. It often happens, under the English code, that the winning team has had by no means the best of the play, and but for exceedingly good fortune would have lost. Under Canadian rules a point is scored when a player of the opposing side gets possession of the ball behind his own goal line and is forced to make a touch down, fair catch, or is fairly held there; or when the ball, or a player of either side having possession of it, is in touch-in-goal or across the dead-ball line, unless such player carries the ball over his opponents' goal line and makes a try; or when a foul is committed in goal. A "point scored" under these conditions is known as a "rouge." Two points are also

scored by the opposing side when a player kicks, carries, passes, or hands the ball from the grounds over his own goal line and he or one of his side "rouges" it. A try counts five points, and a goal kicked from a try six points, the try not counting in the latter case. A goal from a drop-kick counts three points, and from a penalty kick, whether a drop or place kick, two points. It should be added that a team consists of 14 players.

Climatic conditions do not allow the game to be played in the West during the greater part of the year, and matches have to be decided in seven or eight weeks commencing early in September.

Winnipeg is the Western home of Canadian Rugby, and has many players who gained distinction in the Eastern university teams. There are three leagues—the senior, intermediate, and junior. Only two teams compete in the senior league, the Rowing Club and St. John's, but keen interest is taken in each game by the sporting public of the city.

For the past two years, 1911 and 1912, the championship has been held by the Rowing Club, and the team was chosen to represent Manitoba in the Western Canada Tournament. In the intermediate league four clubs compete—St. John's, Rowing Club, Tigers, and Winnipeg. The championship for 1912 rests in the hands of the Tigers, under which name are known the footballers of the Young Conservative Club. The junior league also comprises four teams identical in nomenclature to the teams in the intermediate league. In connection with this league a highly commendable rule has been made which limits the weight of players to 155 lb. or under. Under other conditions many a promising young player has been discouraged by the treatment received at the hands of heavier opponents, and in excluding men above 155 lb. from participating in junior games the Manitoba Rugby Football Union has done much to foster the game among younger players. A similar rule prevails in a juvenile league recently inaugurated, in which the weight is limited to 140 lb. The championship of the junior league is held by the Rowing Club.

Until comparatively recent years footballers in Alberta and Saskatchewan played Rugby under the English code. With the influx of men from the Eastern universities, however, English Rugby gradually decayed

and the Canadian game took its place. It is interesting to note that both in Winnipeg and other Western towns several of the players hail from the Old Country, and not a few of them are among the more skilful exponents of the game. In Alberta, Calgary and Edmonton are the only towns in which Rugby football is played, the former having two clubs and the latter one. In Saskatchewan the game flourishes at Regina, Moose Jaw, and Saskatoon. Saskatoon has three teams, but Regina has won the distinction of being Western champions for 1912, defeating Manitoba in Winnipeg comparatively easily. During a few weeks in the spring British Rugby is played in Winnipeg by a number of enthusiasts from the United Kingdom. Owing, however, to the limited field from which the players can be recruited, the standard of play is scarcely that of such clubs as the "Harlequins," "Richmond," and "Blackheath." It is in many respects regrettable that Canada has not seen fit to follow the example of other British Colonies in adopting the rules of British Rugby. Had this been done, Canadians, like the South Africans, Australians, and New Zealanders, could have sent a team to tour the United Kingdom. Athletic contests between the Motherland and her Colonies can be productive of nothing but good, and hitherto Canada alone has stood out of the great competition in the cricket and football fields.

Golf

Although golf is played to a certain extent in the large towns of the West, it can never become really popular until the membership fees of the different clubs have been reduced to a reasonable amount. At present, to the average player, these stand at prohibitive sums. In some of the Winnipeg clubs, membership can only be obtained by the purchaser of club shares, which, from the profits that have accrued from the sale of original links, now stand at very high figures. These shares must be purchased, of course, in addition to the payment of the ordinary entrance fee. In some instances an initial payment of between \$300 and \$400 is demanded. The principal clubs in the Prairie Provinces are the St. Charles, Winnipeg, and Pine Ridge Clubs, of Winnipeg, and the Regina, Calgary, and Edmonton Clubs, all of which are 18-hole links. Other clubs are to be found in Banff, Moose Jaw, Brandon, and Saskatoon.

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Hockey

Field hockey, as played in the Old Country, has few followers in Western Canada, where it is practically non-existent. This is due in part to the nature of the winter climate, which would limit the playing season to a few weeks, and in part to the difficulty of obtaining playing areas. With ice hockey, however, the position is very different, and the game forms one of the principal winter diversions of the West. It was first commenced in Winnipeg in 1890, when two clubs, the Winnipeg and Victoria, were formed. For some time these two teams held the field, but eventually clubs were formed at Brandon and Portage La Prairie in Manitoba and at Kenora in Western Ontario, and the five were included in one league. In about 1903, however, professionalism entered the game, and this being against the principles of the Winnipeg clubs, they left the league. The professional game was short-lived, and 1907 saw amateur hockey reorganized upon a firmer basis than before. In that year an amateur league was formed which consisted of three clubs—the Capital, the

Varsity, and the Victoria, the latter being a revival of the old club of that name. In 1910 the Capital Club was disbanded and the Monarch Club took its place. An intermediate league has also been formed. In the meantime the game had been gaining a footing in Alberta and Saskatchewan, where the provincial league now attracts entries from most of the towns.

Baseball

Baseball, whilst by no means so universally popular in the Prairie Provinces as is the case elsewhere in Canada, has yet a firm hold over a large section of the population. And this is scarcely to be wondered at, for it undoubtedly is in many respects a fascinating game to witness.

The Western Canada League, which attracts most attention outside of Winnipeg, consists of six clubs—Calgary, Moose Jaw, Regina, Medicine Hat, Edmonton, and Saskatoon. Winnipeg, which possesses a reorganized team of considerable strength, known locally as the "Maroons," competes in the Northern League, an American organization in which the Winnipeg team

affords the only Canadian representation. In Winnipeg a good average attendance at a baseball match may be placed at between 1,500 and 2,000 persons.

Snow-shoeing

Thanks to the efforts of several ardent enthusiasts, snow-shoeing has become a pastime in a number of Western Canadian cities; in some parts, at certain seasons of the year it is, of course, a necessity. In Winnipeg a number of strong tramping clubs are to be found, prominent amongst which may be mentioned the Hollies, Les Voyageurs, and the Canoe Club. A ladies' club, the Alpha, is deservedly popular with many members of the fair sex. Few sports are more calculated to foster a feeling of good fellowship, and a long tramp on a winter evening is seldom if ever regretted. The sporting side of snow-shoeing is in the hands of the Manitoba Snow-shoes Association, which regulates the championship and other contests. The union tramp of the various clubs, when several hundred snow-shoers march with lighted torches, affords a picturesque and fascinating sight.



THE TRAIL OF THE SNOW-SHOE: NIBIGAMI IN WINTER.



THE BUSINESS SECTION OF WINNIPEG.

LANDS



It may be said without exaggeration that few districts in the world have of late years attracted more universal interest than the three central provinces of Canada: Alberta, Saskatchewan, and Manitoba. Nor is it surprising that this should be so, for it is upon these provinces, more than upon any other portion of the Dominion, that the future of Canada as a grain-producing country is based. The area of these provinces has been variously stated. The most recent and authentic figures stand as follows:

	Land Acres.	Water Acres.	Total Acres.	Square Miles.
Alberta	161,872,000	1,510,400	163,382,400	255,285
Saskatchewan	155,764,100	5,323,900	161,088,000	251,700
Manitoba	148,432,698	12,739,600	161,172,298	251,832
Totals	466,068,798	19,573,900	485,642,698	758,817

Land in these provinces not already under occupation may be divided into three classes:

- (a) Dominion land, available for homesteading.
- (b) Railway land.
- (c) Privately owned land.

Whilst it is more than probable that they

will eventually do so, the three Prairie Provinces do not as yet administer the Crown lands situated within their boundaries. Arrangements elsewhere detailed have placed these lands in the control of the Dominion Government, which, to attract settlers to Canada and to develop the latent wealth of the country, has flung them open to the homesteader. It will be well, then, first to consider the conditions upon which this land may be obtained and the prospects that it offers to the settlers who secure it.

Dominion Land

Dominion land is surveyed into square townships, each containing 36 sections of,

as nearly as possible, 1 mile square. These sections, which are numbered from 1 to 36, are again divided into four quarter-sections, each quarter-section being $\frac{1}{4}$ mile square and containing 160 acres. The subdivision thus arrived at may be said to form the homesteading unit; it is at once the greatest and the least amount of land that can be so acquired. We may here

note in passing that sections 11, 29, 8, and a part of 26 of each township are not included in what we have to say on the subject of homesteading, the two former sections being allocated as "school lands" and a portion of the two latter passing to the Hudson's Bay Company.

A homestead may be acquired by any person who is the sole head of a family, and by a male who has attained the age of 18 years who either is a British subject or who declares his intention to become one. In the case of an alien the patent will not issue until this declaration has been carried into effect. A widow whose minor children are dependent upon her for support may make a homestead entry as the sole head of a family. A widow who is remarried, since she no longer constitutes the sole head of a family, forfeits her right to make an entry.

Entries for homesteads must be made at the Dominion Lands Office for the district in which is situated the land applied for, or at one of the sub-agencies in that district authorized to transact such business. A fee of \$10 (£2 1s. 8d.) must be paid before the certificate of entry is granted. Application must be made in person, except that entry by proxy is permitted in the case of a person making an entry, when properly authorized to do so, on behalf of a father, mother, son, daughter, brother, or sister. In these cases the proxy must appear in person before the land agent for the dis-

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trict, sub-agents being unable to accept these entries. The person on whose behalf the proxy acts must appear personally before the agent within six months from the date of the entry and satisfy him that he is in residence on the homestead. Should he fail to appear, the agent must, on the expiration of six months, without notice cancel the entry.

Having paid his entry fee, the homesteader proceeds to qualify for a patent which will make the land his own. This he does by residing on the property in a habitable house for six months during each of three years, and by carrying out certain improvement duties. These duties consist of breaking up 30 acres, of which 20 acres must be cropped. The homesteader is required to undertake a reasonable proportion of the necessary cultivation during each homestead year. These duties being fulfilled, upon application to the agent of Dominion Lands for the district, or to a sub-agent in the district, a patent will issue making the homestead the absolute property of the settler.

On the subject of the "residence" qualification it may be noted that the entrant for a homestead may perform his residence duties by residing on a farm of at least 80 acres, situated within 9 miles of his homestead, and owned solely and occupied solely either by him or by his father, mother, son, daughter, brother, or sister. But in such a case the erection of a house upon the homestead would be required before the patent would issue. None the less, the clause is one of considerable convenience to the homesteader who proposes to join other members of his family. The homesteader desirous of increasing his holding may do so in certain districts by applying for what is known as a pre-emption. Application for a pre-emption may be made at the same time as the entry for the homestead or at a later date. The pre-emption must consist of an additional quarter-section (160 acres) and must adjoin the homestead. Pre-empted land is purchased at the rate of \$3 per acre, payment being made equal to one-third of the purchase price at the end of three years from the date of entry, and the balance in five equal annual instalments. Interest at 5 per cent. per annum is charged upon the balance. Only a person with a homestead is permitted to take up a pre-emption. He acquires it, as in the case of the homestead, from the agent of

Dominion Lands or a sub-agent, and pays a fee of \$10 at the time of entry.

Before he can secure a patent for his pre-empted land, the homesteader must reside, either on his homestead or on the pre-emption, for six months in each of three years additional to the term of residence required for the homestead. He is also required to cultivate, either on his homestead or on the pre-emption, 50 acres additional to the acreage required to secure the homestead patent. Six years must therefore elapse before the settler acquires both homestead and pre-emption; at the close of that time, however, he is the possessor of 320 acres.

Whilst detailed maps showing the position of available homesteads are issued annually by the Department of the Interior, Ottawa, which is responsible for the administration of Dominion land, vacant sites are taken up so continuously that it is scarcely possible to say from one week to another exactly where these sites are to be obtained.

The quality of the land varies slightly in different districts. It may be taken, however, that prairie land generally is admirably suited to the purposes of agriculture. A point to be considered is the extent to which the land is timbered, since it is not advantageous to the settler that his land shall be either covered with timber or entirely destitute of it. Speaking generally, homestead lands in the Prairie Provinces contain about 20 per cent. of timber. When a quarter-section carries no timber the homesteader can, by making application to the Dominion Lands agent, secure a permit to cut a fixed amount of free timber on Government land. The actual material required for constructing an elementary homestead is, therefore, always at his command. In the same way timber suitable for fuel in the winter months will be found without expense, either on the homestead or on Government land. Streams are plentiful, and where they are not to be found water can usually be secured at a depth of from 15 to 40 ft. In some places, however, wells have been sunk to a depth of from 50 to 60 ft. Taxes are slight; even in districts in which a school tax is levied they seldom exceed a total of \$10 per annum. Roads are being energetically constructed, and for the most part the settler experiences no great difficulty in conveying his grain to one or other of the

elevators constructed at different points along the railroads. The elevator forms, it may be remarked, a convenient market, for the grain is there graded and purchased.

Having covered the method by which the homestead may be obtained and some of those points which are most likely to play a prominent part in the development of it, the question of ways and means must naturally present itself. It is the more necessary to consider this matter since the immigrant too frequently imagines that a sturdy body and a determined mind are all the capital that he needs. In exceptional cases they may be; but for the most part the man who, on reaching the district in which he intends to settle, has less than £80 in his possession would be well advised to hire out his services for a year or so. When the settler can command a capital of £150 he can safely make entry for his homestead, though he will still find it necessary, during the six months in the year in which he is free to absent himself, to enter the employ of some successful farmer. By so doing he will both gain experience, and secure the means of tiding over the winter, for no farmer should take up a homestead and expect it to pay its way during the first year. Buildings are needed, and even when these have been erected the equipment necessary to the working of the farm will absorb a further £250. All this expenditure must be incurred before the first harvest can be garnered. The expenses of the equipment may be roughly detailed as follows:

1 team of good horses	\$360
1 harvester	150
4 milch cows at \$40 (£8)	160
1 seeder	90
1 strong wagon	70
4 hogs at \$15 (£3)	60
4 sheep at \$5 (£1)	20
1 set strong harness	35
1 rough sleigh	25
1 disc harrow	25
1 breaking plough	25
1 mowing machine	60
1 stubble plough	20
1 harrow	20
Other smaller tools	40
Barnyard fowls	40

\$1,200 = £250

Some part of this expenditure can be saved by neighbouring homesteaders who

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are willing to co-operate with each other. For instance, such implements as binders, seed drills, and so on, can easily be made to do service for two farms. Whilst still dealing with the question of expense it may not be inappropriate to mention that for a settler to borrow money on a homestead before he has received patent for it is contrary to the provisions of the Dominion Lands Act.

It will be readily understood that the yield of homesteaded land varies considerably. Its precise location, the ability of the farmer, the character of a particular summer, all these factors must be considered.

Whilst Western Canadian farmers still regard the spring and autumn crops of wheat, oats, barley, and flax as of overwhelming importance, crop conditions are undergoing a process of evolution. The original tendency towards cultivation on a great scale combined with economy in labour is gradually giving way to an economy in land and its more thorough use, and the wasteful methods which have too frequently characterized farming endeavour in Canada are slowly but surely being superseded by the scientific application of the principles of mixed farming.

Finally, as regards homesteads, the patent granting possession of the land does not confer upon the owner possession of any minerals that it may contain. By a provision of the Dominion Lands Act, salt, petroleum, natural gas, coal, gold, silver, copper, iron, or other minerals found under homesteaded land may be sold or leased under regulations made by the Governor-General in Council. The owner of the land, however, in so far as the surface rights of the property are affected, has a recognized claim for full and proper compensation.

Railway Land

Canadian Pacific Railway.—Undoubtedly the most notable developments that have occurred in the administration of lands coming under this heading are the provision of ready-made farms and the system of sale with "loan for improvements" instituted by the Canadian Pacific Railway Company.

The ready-made farms consist of from 80 to 160 acres, and upon them all the labour usually falling to the lot of the pioneer is undertaken by the company. A four-room house is constructed, a well is sunk, fencing is erected, a certain amount of land,

about 50 acres, is prepared for cultivation, and a barn is built. All that the settler is called upon to do is to take over a going concern. A farm of this kind is sold by the company in accordance with the price list of the land on which the ready-made farm has been prepared, the cost of improvements and cultivation being added to the price of the land. Terms of payment are one-twentieth of the total cost of land and improvements to be paid at time of purchase, and the balance in 19 equal annual instalments with interest at 6 per cent. Applicants must be prepared to enter with their families into occupation within six months from date of purchase, and must have sufficient cash capital to enable them to pay their first instalment, to maintain their families for one year from date of going into occupation, and to enable them to obtain possession of the necessary agricultural implements, horses, and at least three milch cows. It has been estimated that £400 will prove sufficient capital for all purposes. As the value of land varies slightly according to local conditions, a valuation is made by the company of each farm and the price fixed accordingly, but approximately it will be found that the total cost of the improvements is somewhere in the neighbourhood of £715.

The sale of land with "loan for improvements" was inaugurated by the company at the beginning of 1913. Applicants for land on this plan must be married men having agricultural experience with sufficient capital to enable them to pay the first instalment and to maintain their families for one year; they must also own sufficient horses, cattle, and other live stock to enable them to go into occupation and to proceed with the development of the land. No application is accepted for more than 320 acres. Within a reasonable time after the acceptance of the purchaser's application the company agree to expend a sum, not exceeding \$2,000, upon improvements to the land. These improvements will be made in the following order:

- (a) Erection of a house.
- (b) Erection of a barn.
- (c) Fencing of the farm.
- (d) Providing a well and pump.
- (e) Breaking the land.

The character of the house and barn must be determined by the applicant from standard plans prepared by the company, and in the completion of these improve-

ments the company is prepared to employ the purchaser, his stock, or equipment, paying him the usual rate paid for such labour at that time. The total amount of the cost of these improvements is added to the price of the land and repaid by the purchaser in 20 equal annual instalments with interest at 6 per cent. The purchaser is required to go into occupation of the land within six months, and to reside continuously upon it for five years. He must within the first twelve months break up at least 50 acres in each quarter-section, and during the succeeding twelve months cultivate and crop an additional area of at least 50 acres. During the remainder of the five years this proportion of each quarter-section must be kept under cultivation and at least three milch cows maintained for each quarter.

In addition to these methods of selling their lands, the company have lands for sale for settlement without loan. Under the terms of this arrangement the purchaser pays one-twentieth of the total purchase money in cash, and the balance in 19 equal annual instalments, with interest at 6 per cent. He must go into occupation within six months from the date of the contract and occupy the land for five years. He must during the first year build a house costing at least \$350, and a barn costing \$200, sink a suitable well, fence the land, break 25 acres during the first year, cropping the same, and break an additional 25 acres during the second year, and during each of the remaining years cultivate and crop at least 50 acres on each quarter-section. During the five-year period he must keep at least three milch cows. In lieu of the cultivation and cropping of the land the purchaser may agree to maintain during the five-year period 10 head of horses or cattle, or 70 head of sheep or hogs, for each quarter-section.

Irrigable lands in the Western section of the irrigation block will be sold under any of the three foregoing plans, but subject to some special regulations providing for the proper supply of water during the irrigation season, and the payment of an annual water rent of 50 cents per annum per acre of the land classed as irrigable. The final water agreement is in form approved by the Minister of the Interior for the Dominion of Canada.

All the above methods of sale apply to the land grants of the Canadian Pacific Railway Company and subsidiary or ac-

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quired companies, with the exception of lands in the Alberta Railway and Irrigation Company's tract in Southern Alberta. Lands in this tract are sold on any one of the three first mentioned plans, but are subject to some regulations regarding the flow of water and the water rental, the water in this case also being supplied under a form of water agreement approved by the Minister of the Interior.

There is no question of naturalization involved in the purchase of lands from the railway company.

In the province of Manitoba the bulk of the unsold lands are to be found principally in the central portion of the province.

In Saskatchewan most of the unsold lands are along the Saskatchewan River, west of Saskatoon, and south and east of the Quill Lakes, with a considerable but scattered area available along the main line.

With regard to Alberta, the Canadian Pacific Railway Company's lands may, broadly speaking, be divided into two sections, namely, the lands in the irrigation block, and the lands north and south of this block which are non-irrigable. The irrigation tract is situated along the main line of the railroad east of Calgary, and contains some 3,000,000 acres, of which area approximately one-half is irrigable. The lands known as the Central Alberta Block comprise a large area of very fertile land, in which irrigation is not necessary.

The terms of sale outlined above apply to all the company's land in the three provinces.

The Canadian Northern Railway.—This company controls many lines traversing the Prairie Provinces, and is engaged upon new construction to a phenomenal extent. It owns tracts of lands in Manitoba and Saskatchewan.

In Manitoba, land offered for sale by this company may be found south of Lake Dauphin and west of Lake Winnipegosis. While the company owns other tracts scattered about the province, most of the land offered is situated in the two localities mentioned. The price of these lands when situated more than 2 miles from a station, town site, or siding is \$15 per acre, with a survey fee of 10 cents per acre. Land situated within the 2-mile radius is sold for \$20 dollars per acre with a similar survey fee. Payment may be made at the rate of \$2.50 per acre cash, and the balance

in six equal annual instalments with interest at 6 per cent. per annum.

In Saskatchewan the company owns land in all parts, though the terms on which it may be obtained are slightly less advantageous to the purchaser than is the case in Manitoba. When situated more than 2 miles from a station, town site, or siding the price is \$18 per acre, with a survey fee of 10 cents per acre. Within that radius the price is \$25 per acre, with a similar survey fee. Terms of payment are identical with those upon which the company's land is to be obtained in Manitoba.

It should be added that the sale of Canadian Northern lands is entrusted to Messrs. Davidson and McRae, of Winnipeg, and that the company does not, in land matters, deal direct with the purchaser.

The Grand Trunk Pacific differs from its two competitors in that it has no lands for sale other than town site lots. Since, however, a developed country is an essential to a profitable railroad, those responsible for its management take a considerable interest in all questions concerning the territory through which it runs, and the intending settler can always obtain from its officials valuable advice as to the price and location of farm lands.

Other Lands

Finally, as regards lands owned by individual firms and large corporations, those interested may obtain them in small or great areas in all parts of the provinces. The price of unimproved land will be

found to vary in different parts from \$10 to \$25 per acre, whilst improved land may cost anything from \$25 to \$80 per acre. As homesteads have been taken up, the demand for purchasable land has steadily increased, and prices to-day are frequently double, and sometimes more than double, what they were as recently as 1908. It does not follow, however, that land for agricultural purposes has yet reached its full value in the West. Many improved farms in Manitoba have changed hands recently at from \$30 to \$45 per acre, and it is quite within the bounds of possibility that the purchasers, by adopting a more scientific process of cultivation, may derive a return upon their capital as high as that secured by their predecessors. The erection of agricultural colleges and the facilities for acquiring knowledge afforded by agricultural trains carrying an equipment for demonstration purposes and a staff of instructors tend to this end. Land offered for building purposes is, however, far more dangerous to the investor. Such immense fortunes have been derived from this source in the past, such immense fortunes are certain to be derived from it in the future, that a counsel of prudence is more frequently than not a wasted effort. Yet nothing is more certain than that some warning is needed.

The investor in land should form an unbiased and accurate opinion as to the return that the soil can be made to yield; for in the long run selling values must rest upon actual worth.



ZION METHODIST CHURCH, MOOSE JAW.



COLLIERY SHAFT AT LETHBRIDGE, ALBERTA

LABOUR



LABOUR throughout the Dominion is highly organized and practically every branch is under the control of the Trades and Labour Congress of Canada, a body that exercises considerable influence over legislative and industrial development throughout the country. This important body is represented in the various provinces by a strong executive committee, and with but very few exceptions the trade unions are affiliated with it. Provincial Federations of Labour have been formed in one or two provinces of Canada, but hitherto these associations have been lacking in the Prairie Provinces. The Executive Committee in Alberta, however, has decided that a Provincial Federation is desirable and has commenced to organize it; it is expected that Manitoba will shortly follow suit. By linking up the different labour bodies in this way and vesting a final controlling power in the parent association at Ottawa the position of labour is being greatly strengthened. The party has not yet succeeded in electing a representative to the Provincial Governments in Alberta, Saskatchewan, and Manitoba, but by dint of persistent petitions to the governing bodies many reforms in which labour is interested have been successfully obtained. The present platform of the Trades and Labour Congress embodies the following principles:

1. Free compulsory education.
2. Legal working day of eight hours, and six days to a week.
3. Government inspection of all industries.
4. The abolition of the contract system on all public works.
5. A minimum living wage, based on local conditions.
6. Public ownership of all franchises, such as railways, telegraphs, telephones, waterworks, lighting, &c.
7. Tax reform, by lessening taxation on industry and increasing it on land values.
8. Abolition of the Dominion Senate.
9. Exclusion of all Orientals.
10. The union label to be placed on all manufactured goods, where practicable, and on all Government and municipal supplies.
11. Abolition of child labour by children under fourteen years of age; and of female labour in all branches of industrial life, such as mines, workshops, factories, &c.
12. Abolition of property qualification for all public offices.
13. Voluntary arbitration of labour disputes.
14. Proportional representation with grouped constituencies and abolition of municipal wards.
15. Direct legislation through the initiative and referendum.
16. Prohibition of prison labour in competition with free labour.

While following the general principles of the chief association the various provincial executive committees are naturally influenced by local conditions and modify or extend their requests to the various Governments as circumstances may require. In Alberta the chief legislative demands in 1912 were: (1) the elimination of the 30-foot clause in the Workmen's Compensation Act of 1908, with other amendments; (2) legislation requiring scaffolding and buildings to be erected with ample provision for the safety of the workers; (3) an Act prohibiting the employment of children under sixteen years of age; (4) an Act requiring the fencing of machinery; (5) the incorporation of clauses in the Municipal Act of Alberta providing for the tenants' franchise, the fair wage, the abolition of property qualifications for all civic offices, and the abolition of the poll tax; (6) an eight hours day on all Government work; (7) legislation prohibiting the employment of Asiatics on licensed premises; (8) the weekly payment of wages; (9) the establishment of a Provincial Department of Labour. The Government of Alberta has so far not seen its way to grant any of these requests, although an Early Closing of Shops Act has been passed in response to later demands of the labour body.

In Saskatchewan the executive committee has met with a far larger measure of success, and its representations have induced the Government to pass an Act for the protection of persons employed in the construction of buildings (Scaffolding Act) and an Act

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to prevent the employment of white girls by Orientals. The Cities and Towns Act was amended by the abolition of the property qualifications for mayor, aldermen and town councillors and the extension of polling-time from 5 p.m. to 8 p.m. In the case of railways receiving Government aid and over which, in consequence, the Government is able to exert a certain amount of influence, the scope of the fair-wage clause, originally limited to railways under construction, was by legislation extended to cover railways constructed and in operation.

The request of the committee that the union label should appear on all Government printing wherever practicable was also granted by an Order in Council. There was also drafted an Act to regulate the employment of children. In March, 1911, the Provincial Government decided that a Bureau of Labour should be attached to the Department of Agriculture, the object of which would be to collect, assort, systematize, and publish information and statistics relating to (1) employment, wages, and hours of labour throughout the province; (2) strikes or other labour difficulties; (3) co-operation, trades unions, labour organizations; (4) the relations between capital and labour and other subjects of interest to working men; (5) commercial, industrial, and sanitary conditions surrounding working men; and (6) such other matters as relate to the permanent prosperity of the industries of the province. During the two years of its existence this Bureau has done good work as a mediator in the few differences that have occurred between employers and employees, and in securing and distributing harvest hands to garner the crops of Saskatchewan. It is noteworthy that during 1911 not one strike, lock-out or other serious labour trouble arose within the province. The general strike following the lock-out of machinists and boilermakers on the Grand Trunk Pacific Railway system was joined by a few men in Saskatchewan, but as the trouble extended over the three Prairie Provinces and had its origin at Rivers, Manitoba, it is not fair to describe it as a labour trouble within the province of Saskatchewan. Saskatchewan is the only province in Canada, with the exception of Prince Edward Island, in which during the year 1911-12 disputes between labour and capital were entirely absent—a state

of affairs which would seem to supply a strong argument in favour of the tolerant and sympathetic attitude which the Government of Saskatchewan has consistently adopted towards labour problems.

In Manitoba the executive committee of the Trades and Labour Congress has so far experienced considerable difficulty in obtaining any tangible legislative gain, with one exception all their suggestions having been disregarded. The principles advocated include (1) an Act to create a Labour Bureau and the establishment of an Employment Bureau operated by the Government; (2) the Factory Act to be

gaged upon building and construction work.

The formation of trade unions and other labour organizations has done much to secure an equitable rate of pay for the various classes of labour. There are few cases in which the workman receives less than 25 cents an hour when board and lodging are not provided, and the skilled trades are in many instances especially well paid. The following table gives the approximate rate of wages in Winnipeg, which may be taken as fairly representative of the scale obtaining throughout the three provinces:

Trade.	Rate per Hour.	Hours per Day.
Bricklayers and masons	70 cents	8
Stone-cutters	60 "	8
Marble-cutters	45 "	9
Carpenters	55 "	9
Plumbers and steam fitters	50 "	8
Plasterers	65 "	8
Painters	40 "	9
Electricians	40 "	8
Tinsmiths	42½ "	9
Bridge and structural ironworkers	50 "	9
Portable and hoist engineers	50 "	10
Builders' labourers	27½ "	10
Ordinary labourers	25 "	10
Team drivers	25 "	10
Excavators	25 "	10

amended to include Chinese laundries; (3) the enactment of a Shops Act similar to the Shops Act of the province of Ontario; (4) legislation requiring Street Railway Companies to equip street cars with the most approved safety appliances, and to compel the owning company, in the case of an accident, to submit the car principally concerned for immediate inspection by a competent and unbiassed authority, who will report upon any defect in its equipment which may come under his notice; (5) legislation governing the erection of steel and other buildings for the purpose of preventing loss of life and physical injury to the workers employed; (6) a compulsory inquest to be held in every case of sudden or violent death; (7) an Act prohibiting the employment of white females by Orientals; (8) the abolition of the deposit now required from candidates in provincial elections. In the view of the Government part of this suggested legislation is already provided for in existing Acts. A Bill was passed, however, which has for its object the protection of workmen en-

High as some of these rates may seem, it must not be forgotten that many commodities, houses in particular, are correspondingly dear. Despite this, in the case of the skilled trades there should still be a surplus after all living expenses have been met. The unskilled labourer with a wife and family to support, however, will possibly find some difficulty in keeping his expenditure proportionate to his income.

To the farm labourer Western Canada probably offers better prospects than any other country in the world. The lack of labour is a severe hindrance to the farmer, especially during the harvest season. No less than 50,000 harvesters were required throughout the provinces of Alberta, Manitoba, and Saskatchewan in 1912, and the number available fell far short of this figure. The wages offered varied from \$2.50 to \$3.75 a day. Ordinary farm wages range from \$15 a month for an inexperienced to \$45 a month for an experienced man, with board and lodging in addition. The rates of pay are rather higher in Alberta and Saskatchewan than in Manitoba.



COMMERCE

By CHAS. F. ROLAND, COMMISSIONER, WINNIPEG INDUSTRIAL BUREAU



DURING the Customs fiscal year ending March 31, 1913, Canada imported from the United States goods valued at \$441,155,855. During the same period

the value of imports received from Great Britain was \$138,659,429. The figures for the whole Dominion are quoted because they indicate a condition of affairs which applies also to the provinces. It is probable that in the Western provinces the proportion of goods imported is even more favourable to the United States than shown by the figures for the whole Dominion. Unfortunately, absolutely accurate provincial figures of imports from different countries are not readily obtainable, but it may be taken as correct that the provinces of Manitoba, Saskatchewan, and Alberta are receiving annually from the United States imported goods of three times the value of those received from Great Britain. This phase of commerce in Western Canada is one which is bound to be of the greatest possible interest to the enterprising British manufacturer and wholesaler, and some of the causes which, apart from that of geographical position, have produced this condition of affairs will be indicated in this article.

Imports and Exports

The total recorded imports into the Prairie Provinces during the fiscal

year ended March 31, 1913, were as follows :

	Dutiable.	Free.
Manitoba ...	\$47,655,677	\$11,242,607
Saskatchewan	14,516,354	4,494,651
Alberta ...	17,570,550	3,508,229

These figures, supplied by the Customs Department at Ottawa, do not, however,

The annual value of imports and exports from these ports of entry for three successive fiscal years ending March 31, 1912, follow, and will be found of value in indicating the decrease (except in Saskatchewan) in the case of exports and the very substantial increase in the value of imports in all three provinces.

	FISCAL YEAR ENDED MARCH 31, 1910.		FISCAL YEAR ENDED MARCH 31, 1911.		FISCAL YEAR ENDED MARCH 31, 1912.	
	Exports.	Imports Entered for Consumption.	Exports.	Imports Entered for Consumption.	Exports.	Imports Entered for Consumption.
Manitoba ...	\$ 4,192,919	\$ 25,591,554	\$ 3,134,564	\$ 34,625,450	\$ 3,302,815	\$ 42,459,529
Saskatchewan...	2,912,477	6,145,608	4,056,582	10,908,551	4,621,809	14,236,453
Alberta...	161,190	6,007,002	365,265	9,135,678	52,685	13,721,754

represent the total imports of the Dominion for which a market is found in the provinces named. Large quantities of imported goods supplied by Eastern houses with Western branches, and consigned to the Eastern Customs ports of entry, are shipped West. Of these, however, no record is kept. Another difficulty encountered in compiling the total imports into the Prairie Provinces is the fact that official records are kept only of the goods received at the Customs ports of entry. There is, therefore, a large inter-provincial trade of which there is no record. In Manitoba there are five ports of entry, in Saskatchewan four, and in Alberta three.

An analysis of the goods entered for consumption, dutiable and free, at the ports of Winnipeg, Manitoba, and Calgary, Alberta, during the fiscal year ended March 31, 1912, amounting in the case of Winnipeg to \$36,521,019 and of Calgary to \$8,006,691, may be taken as exemplifying the principal articles imported by the three provinces. The list of some 300 classes of goods of almost every conceivable description contains the following, of which the value in each case exceeds \$100,000. Where the value exceeds \$1,000,000 the exact amount is given:—

WINNIPEG.—Dutiable: Ale, beer, and porter; animals (living); books, periodi-

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cals, and other printed matter ; brass manufactures ; bricks, tiles, &c. ; carriages of all kinds, including railway cars, trucks, &c. ; coal, bituminous and dust ; cork and cork wood ; fruits and nuts, \$1,174,163 ; glass ; gloves and mitts ; gunpowder and other explosives ; gutta-percha, india-rubber, &c. ; hats, caps, and bonnets ; iron and steel manufactures, \$10,046,252 ; jellies, jams, and preserves ; jewellery ; leather and leather goods ; mats, door and carriage ; mineral substances ; musical instruments ; oils of all kinds ; oiled cloths, cork matting, and linoleum ; optical and other scientific instruments ; paper and manufactures of paper ; butter, cheese, and lard ; meats ; ribbons ; signs ; soaps ; spirits ; sugars ; tobacco ; vegetables ; manufactures of wood ; wool and manufactures of wool, \$1,642,797.

Free of duty : Diamonds ; logs ; lumber and timber (sawn, not shaped) ; fruits (green) ; binder twine ; drugs and chemicals ; iron and steel ; tin ; gasoline ; coffee and tea.

CALGARY.—Dutiable : Carriages, railway cars, trucks, &c. ; cotton manufactures ; electrical apparatus, motors, &c. ; fruits and nuts ; iron and steel manufactures, \$2,686,260 ; leather and leather goods ; meats ; spirits ; manufactured wood ; wool and manufactures of wool.

Free of duty ; Lumber and timber (sawn, not shaped) ; fruits (green) ; iron and steel ; tea.

The principal articles exported from the Prairie Provinces, apart from the enormous quantities of wheat and other cereals, are sand and gravel ; fish ; telegraph and other poles ; horses and furs (undressed).

Agricultural Wealth

The greatest source of wealth in Western Canada is agriculture, and the greatest single contributing factor is wheat. Probably there has never been a more striking instance of the power of agriculture to create a great and prosperous community than that which is on view on the plains of Western Canada to-day. Here is a country where no more than 40 years ago there were about 12,000 people, mostly half-breeds and Indians, but which now has a population of 1,500,000, and is adding to that rather considerable number in the spring and summer months each year at the rate of over 1,000 a day. The soil of Western Canada is rich and fertile beyond the dreams of agricultural avarice, and

produces crops year after year in unexcelled quality and higher average yield than any other country in the world where farming is done on the same big scale. Wheat produces 20 to 60 bushels to the acre ; oats, from 50 to 100 bushels ; and barley, from 30 to 60 bushels.

The area of the three provinces is 479,162,438 acres, and of this it is estimated that, exclusive of the territory recently added to Manitoba, some 200,000,000 acres are arable. In 1900 the acreage under crop—wheat, oats, and barley—was 3,491,413 ; in 1906 it had increased to 7,894,666 ; in 1911, 14,626,234 ; and in 1912, 17,329,000. In addition to this 1,110,000 acres of flax were sown in 1912. The money value of last year's grain crop alone is conservatively estimated at \$250,000,000. That these facts and figures are only records of the beginning of progress and development in the Prairie

polis. In 1911, 101,326,250 bushels of wheat were handled at Winnipeg, as against 96,647,850 bushels at Minneapolis and 42,629,751 bushels at Chicago. Last year 143,682,750 bushels of grain were handled at Winnipeg, which is now the largest primary grain market in the world.

Manufactures

A noteworthy feature in the commerce of the three Prairie Provinces is the remarkable increase in the output of factories during the past few years. Every Western city and town is alive to the importance of securing industrial expansion, and almost all have official or semi-official organizations to place before prospective manufacturers their respective advantages. The following table shows the values of products manufactured in the three provinces during the years 1900 to 1910¹ and the increase per cent. during that period :

	1900.	1910.	Increase Per Cent.
Manitoba	\$12,927,439	\$53,673,609	315.19
Saskatchewan	651,000	6,332,132	871.69
Alberta	1,313,320	18,788,826	1,323.78

Provinces, and that the future holds tremendous possibilities for this wonderfully productive country, may be judged by the fact that only 10 per cent. of the

The comparative statistics of the output of factories in towns with a population of 10,000 and over, in the years 1890, 1900, and 1910, are as follows :

Towns.	Values of Products in		
	1890.	1900.	1910. ¹
Winnipeg	\$5,611,240	\$8,616,248	\$33,400,608
Calgary	258,900	599,444	7,751,011
Regina	—	—	1,313,274
Edmonton	—	243,778	4,493,304
Brandon	733,800	541,327	2,330,430
Moose Jaw	—	135,040	738,818
Saskatoon	—	—	683,277

available land is under cultivation. Commerce is measured by the power of the land to maintain population, and cities and towns can grow to the limit of the crop resources which directly or indirectly support them. The future of the cities and towns of Western Canada will be measured by the size of the crops of the three Prairie Provinces—Manitoba, Saskatchewan, and Alberta.

The greater part of this immense annual crop is handled at Winnipeg. Indeed, in this respect Winnipeg has surpassed the famous markets of Chicago and Minnea-

The following are the principal industries of the three provinces, with the amount of capital employed in each in 1910.¹

MANITOBA.—Bread, biscuits, and confectionery, \$1,112,066 ; brick, tile, and pottery, \$1,452,907 ; railway and other cars, \$2,500,000 ; electric light and power, \$4,143,542 ; flour and grist mill products, \$8,979,829 ; foundry and machine shop products, \$1,397,876 ; liquors (malt), \$1,855,745 ; lumber products, \$3,533,717 ; printing and

¹ The most recent figures. Were figures available for 1913 they would show a considerable increase over those given.

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publishing, \$1,081,228; meat packing, etc., \$2,652,362; stone (cut), \$1,244,382.

ALBERTA.—Brick, tile, and pottery, \$2,241,317; electric light and power, \$3,606,455; liquors (malt), \$2,850,663; log products, \$2,169,245; lumber products, \$1,914,591; meat packing, etc., \$1,660,000.

SASKATCHEWAN.—Flour and grist mill products, \$1,174,000; log products, \$1,976,850.

Western Canada Market

It has been shown that the total of imports during 1913 into the three Prairie Provinces reached \$98,988,068, and that the total value of manufactured products in 1910 (last available authentic figures) amounted to \$78,794,567. These figures, however, must not be taken as representing the total of manufactured goods marketed in Manitoba, Saskatchewan, and Alberta. Various efforts have been made to estimate the Western Canada market for manufactured goods, or at any rate to ascertain the quantity of goods handled annually at Winnipeg, from which centre the larger part is distributed. A compilation made by the Winnipeg Industrial Bureau of car lot commodities billed into Winnipeg during the year 1911 throws interesting light on the enormous inter-provincial commerce of which there is no Government record. The following are some of the figures of complete car load lots billed direct into Winnipeg:

Commodity.	Car Lots.
Agricultural implements ...	2,120
Wire nails, fencing ...	1,539
Cement ...	1,180
Furniture ...	1,090
Hardware ...	1,042
Sugar ...	972
Paper ...	868
Carriages and wagons ...	712
Machinery ...	675
Iron pipes ...	682
Stoves and ranges ...	584
Canned goods ...	571
Brick ...	539
Barrels ...	514
Sewer and drain pipe ...	667
Automobiles ...	436
Glass (window and plate) ...	406

Another compilation, prepared from the records of Winnipeg jobbing houses and based on the actual turnover of one year (1912), gives further instructive information. The available records showed a turnover of as much as \$25,000,000 in agricul-

tural implements and farm machinery; \$16,000,000 in the hardware trade; \$15,000,000 in groceries; \$17,000,000 in dry goods and textiles; \$12,000,000 in the iron and building trades; over \$6,000,000 in the boot and shoe trade; \$5,000,000 in the automobile industry, and so on, including large sums for railway and municipal supplies, furniture, drugs, electrical appliances, chemicals, confectionery, metal products, leather lines, stoves, ranges, furnaces, household necessities, and other less important commodities.

On the basis of these figures it is conservatively estimated that the city of Winnipeg alone is now selling, throughout the extensive area for which it is the economic distributing centre, manufactured goods to the annual value of \$175,000,000. The purchasing power of the Western Canada market, based on the actual value of last year's crops—about \$250,000,000—and the other developed resources of forests, fisheries, and mines is calculated to be in the neighbourhood of \$300,000,000.

This splendid market is made up to a very large extent of people from the British Isles familiar with the goods and trade marks of British manufacturers. Yet even with the advantages accorded the British manufacturer and wholesaler by the preferential tariff, this market, as has been shown, is being exploited by commercial enterprise outside of the British Empire.

British and United States Trade Methods Compared

If Great Britain is to promote and expand the sale of British manufactures in Canada, she must grapple with the problem earnestly and actively, and adopt a more progressive policy than is now pursued. It can scarcely be doubted that British manufacturers have hitherto failed to devote sufficient attention to their Canadian trade, more especially their Western Canadian trade. The British manufacturer has in fact allowed the United States a freer hand in Canada than has been given to competing nations in other foreign fields.

The Canadian provinces beyond the Great Lakes offer perhaps the greatest market in the world for manufactured goods of every description. The needs of the Canadian West for manufactured goods are many and varied. It is true that certain goods are now manufactured in

Winnipeg, but the demand for manufactured goods is growing so rapidly that the West will not be able to supply for some years to come more than a small portion of what is required.

Article after article has appeared in the Press of the United Kingdom and in Canada urging British dealers to take steps to improve the situation. Patriotic resolutions have been adopted by British Boards of Trade, and British manufacturers have organized several schemes to develop Canadian commerce, all without the desired effect.

There is no lack of faith in Great Britain as regards the sure and rapid development of Canadian trade. Many big British manufacturers have up-to-date selling organizations, and a large number advertise their goods freely in Canada, but there seems to be a lack of the "follow-up" system as carried out on this continent. Again, in all selling organizations a proper base is essential to the successful expansion of trade, and in this respect the British trader is lacking. If the British manufacturer desires to meet the competition of the United States, it is absolutely necessary that he shall maintain proper warehouse stocks in Canada. This necessary step, which assures the quicker delivery of goods, should be followed by the adoption of Canadian methods in advertising and cataloguing. Again, prices should be quoted in Canadian currency instead of in British pounds, shillings, and pence. By the adoption of Canadian standards of weights, measures, and currency, by the adoption of Canadian methods in correspondence, advertising, and cataloguing, and especially by providing for the prompt delivery of goods, the British manufacturer can remove the greatest barrier which at present interposes between his firm and Western Canadian trade.

British Service Required

In opening a progressive campaign British manufacturers should make it their concern to secure the formation in Canada of a fully organized and adequate service of trade commissioners. Through the Department of Trade and Commerce of Canada, which issues weekly reports containing trade inquiries, British manufacturers are receiving "service"; but that service, even when taken in conjunction with the service rendered by the special Trade Commissioner-General of the

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British Board of Trade, who has offices at Montreal and advisory sub-agents in scattered cities, is not sufficient to cope with the well-organized and perfected organization provided by the United States Government for the benefit of its manufacturing concerns.

The United States consular service in Canada consists of five consulates-general, 26 consulates, and 45 consular agencies, making a total of 76 trade agencies in Canada. The officers employed must undergo both written and oral examinations, the written examination including "at least one modern language other than English—French, German, or Spanish." They are required to be conversant with the natural, industrial, and commercial resources and the commerce of the United States, especially with reference to the possibility of extending American trade in Canada. They are, in addition, required to possess some knowledge of political economy, and the elements of international, commercial, and maritime laws. A United States consular officer is required to furnish specific reports on commercial conditions and trade opportunities, and he is supposed to answer intelligently all queries of United States manufacturers. The system employed enables the United States manufacturer to get into touch with every possible opening of any account. If a Canadian dealer wishes to get the name and address of a United States manufacturer of a certain line of goods, he has only to apply to the consular officer, who has on file a complete library of catalogues and directories of United States manufacturers and exporters. Not only is the information supplied without delay, but the inquiry is sent direct to the Department of Commerce at Washington, where it is sent out in the daily reports furnished by the Government. The service thus rendered to United States manufacturers is of great material value. These officers are efficient and thoroughly conversant with the commercial resources of their own country, as well as with conditions throughout the districts of which they are in charge. The activities of the United States consular officer are not, however, confined to the answering of queries. He must show initiative if he is to hold his position. In a formal report made to his Government or by an informal suggestion he brings to the attention of the United States manufacturer methods by which the sale of home products may be

promoted. He is on the ground and is able to give valuable information as to the peculiar trade customs of his district, thus serving both shipper and buyer. With fully equipped offices, the United States consul gets advance information regarding tenders on big construction contracts. There is little red tape, the whole service being conducted upon up-to-date business lines.

If British manufacturers are to meet this competition there must be organized effort. Their endeavours should be backed by efficient and adequate Government agencies in every trade centre of the Dominion.

A Forecast of Development

The wealth of Western Canada's partially developed resources is yet untold. With only a fractional part of the arable land under cultivation, with the resources of mines and forests practically untouched, with immigration increasing yearly both in quantity and quality, and with money pouring in year after year in ever-increasing amount, who can foretell what the future may hold for the Prairie Provinces? In the early sixties people scoffed at the idea that Chicago would ever be more than a frontier town, but agricultural and commercial conditions demanded a great city on the spot where Chicago now stands. Similarly, development hitherto undreamed of should follow the settlement of the Western provinces. Never before has pioneering been done under such favourable conditions as exist to-day in the prairies of the Canadian West. Railway building in Western Canada is one of the wonders of the age, over seven miles of new track being laid down for every day in the year. Each year the railway map of Western Canada shows hundreds of miles of extensions in all directions. Development in this direction, with the opening of the Panama Canal and the Hudson's Bay Railroad, will facilitate the handling of the grain crop. This will proportionately increase the acreage cultivated, which in turn will create an ever-increasing demand for manufactured goods. Nor will the demand be limited to the actual necessities of life, for the Western farmer has money, and buys liberally of the luxuries. Along the lines of new railway new towns are being, and for many years will be, built to provide for the immediate needs of the agricultural population.

Remarkable Growth of Western Cities

The annual and fully authenticated records of the leading Western cities and towns, extending over a period of years, form the most reliable guide for those who seek commercial and industrial investments. In order that the substantial increases which are being made in population, bank clearings, building permits, assessment, postal revenue, and customs duties may be brought home to the reader, the figures for the past five years of eight leading Western cities have been tabulated (see page 397).

Western Canada's Water Power

In these days, when hydro-electric power is becoming so important a factor in industry, it is of interest to note that in the Western Provinces there are vast possibilities in this regard. In Manitoba there is water-power which would produce 7,000,000 horse-power, and only 78,000 horse-power is being utilized. In Saskatchewan the water-power awaiting to be used aggregates 500,000 horse-power. In Alberta, out of 1,144,000 horse-power only 1,330 horse-power has been converted. This stupendous force promises soon to supply light, heat, and power to the many cities of Western Canada.

Hudson's Bay and Panama Trade Routes

The advantage to be gained by Western Canada from the completion of the Hudson's Bay Railway will be more readily realized when it is stated that the land haul for grain or other products en route to European markets will be very considerably reduced by this route. This will materially reduce the cost of transportation, railway rates being considerably higher than those by water.

The resources of Hudson's Bay and regions adjacent to the railway, from which exports may be expected in the future, include timber, minerals, agricultural products, fish, fur, and oil.

In the opinion of those best qualified to judge, the opening of the Panama Canal will not greatly affect the trade of Central Canada. No doubt a small percentage of the grain now passing eastwards, to find its market in Europe, will ultimately pass through British Columbian ports and the Canal. It would appear,

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however, that many influences, besides freight rates, determine the route by which Canadian grain is exported, and it is possible that the eastward shipment of grain from its point of production will

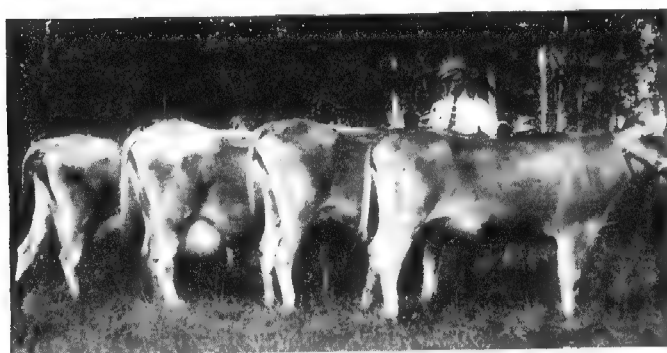
still be largely favoured. It is, in fact, as yet extremely difficult to estimate the effect which the Panama Canal will produce upon the trade of the Prairie Provinces. It should be remembered,

however, that shipments through the Canal will involve a long haul over the Rocky Mountains and the payment of Canal dues, the precise amount of which has not yet been determined.

RECORDS OF WESTERN CITIES, SHOWING INCREASES IN PERIOD OF FIVE YEARS, 1908-1912.

City.	Population.	Bank Clearings.	Building Permits.	Rateable Assessment.	Postal Revenue.	Customs Duties.
		\$	\$	\$	\$	\$
Winnipeg	118,252 to 200,000	614,111,801 to 1,537,817,524	5,513,700 to 20,563,750	102,790,170 to 214,360,140	555,466 to 1,017,829	3,507,889 to 10,484,920
Brandon	11,282 to 14,000	29,430,274 (1911) ¹ to 32,297,075	293,047 to 1,166,214	9,252,822 to 11,626,760	45,960 to 60,780	151,624 to 405,167
Calgary	25,000 to 74,000	64,815,227 to 275,491,303	1,004,520 to 20,394,220	17,941,678 to 55,850,000	90,941 to 229,036	269,153 to 2,700,285
Edmonton	20,000 to 60,000	38,596,505 to 220,727,617	2,549,847 to 14,446,819	20,903,910 to 77,017,850	58,801 to 134,652	104,312 to 1,531,379
Lethbridge	6,020 to 13,000	28,818,693 (1911) ¹ to 33,485,946	369,145 to 1,358,250	3,664,608 to 16,182,000	14,541 to 36,823	35,058 to 520,227
Moose Jaw	10,000 to 25,000	39,872,743 to 65,136,326	430,925 to 5,275,797	9,222,260 to 56,755,468	22,819 to 59,226	24,094 to 964,778
Regina	10,000 to 30,210	50,739,159 (1910) ¹ to 115,727,647	516,656 to 8,047,309	12,401,380 to 54,999,942	61,000 to 127,663	83,103 to 969,961
Saskatoon	10,500 to 27,600	63,557,142 (1911) ¹ to 115,898,467	115,625 to 7,640,530	7,205,285 to 39,867,465	19,711 to 84,199	15,215 to 1,076,269

¹ Clearing House started.



DAIRY CATTLE.



OPENINGS FOR CAPITAL MANITOBA

By CHAS. F. ROLAND, COMMISSIONER, WINNIPEG INDUSTRIAL BUREAU



OPENINGS for capital in the Prairie Provinces are so numerous and varied that they may be said to embrace almost every known form of investment. The enormous area of new territory opened up by unprecedented railway expansion has created a demand for money for legitimate development which offers the investor a wide choice. It is safe to say that no portion of the globe forms a more profitable, and at the same time a safer, field for the investment of capital in large or small amounts.

The main security behind Western Canadian investment of all kinds is the wealth-producing power of the land itself. The extraordinary productiveness of the soil of Western Canada is leading to the building of cities and towns with wonderful rapidity, and vast fortunes have been, and are still being, made by the increase in land values. Wherever development has taken place, at almost every point reached by the railroads, in the little prairie towns as well as in the large trade centres, investments can be found that offer at least absolute security for principal and interest, and very likely a handsome return upon the capital employed. Specific instances illustrating the increase in values could be enumerated by the score, but a few in the business centre

of Winnipeg—a city of 200,000 inhabitants—will illustrate the extremely profitable nature of real estate investment where purchase is guided by business foresight. In this city there are thoroughly authenticated instances of property increasing in value during the ten-year period, 1902 to 1912, as much as 10, 16, 20, 25, and even 30 times; and on the spot these examples are not regarded as exceptional. The captious critic might point out that the instances quoted were of a speculative character, but just where the speculative element enters into investment in Western Canadian real estate is a subject for controversy even among those whose business it is to know. It is unfortunate that there are now, and have been in the past, many so-called “real estate investments” which are extremely unlikely to yield an adequate return for many years to come. But no one need be imposed on if ordinary precautions are taken. There is no lack of reputable real estate agents, whose names and addresses may be secured by an ordinary business inquiry. Some, of course, are endowed with more foresight than others, and of a number it may be said with absolute truth that they seem to possess the genius of selection.

Apart, however, from the purchase of real estate in anticipation of a rise in values, there are very profitable investments in land in which the element of speculation plays no part. First of these may be mentioned the purchase of agreements of

sale, which will yield some 15 per cent. or more according to the state of the market. In the purchase of this class of investment it is advisable to secure expert advice on the spot, as a knowledge of the property and of the parties interested in the agreement is necessary.

Of a still more conservative character, and a favourite form of investment by insurance and trust companies, is the real estate mortgage. At the end of last year, it has been estimated, trust loan and insurance companies had invested in Manitoba, Saskatchewan, and Alberta over \$250,000,000, the great bulk being in mortgage loans. The constantly increasing value of farm lands and city property makes the mortgage investment much safer here than in older countries. Further, in Great Britain and elsewhere, advances are made on two-thirds or three-fourths of the value of property, and the rate of interest varies from 3½ to 4½ per cent., or little better. In Western Canada, on the other hand, cash is advanced on only 40 or 50 per cent. of the value, and the rate of interest is usually 7 per cent., varying from 6 to 8 and even 9 per cent. There are many strong companies in Western Canada—some with offices in Great Britain—which act as intermediary between the borrower and the lender.

Probably the largest amount of British capital invested in Canada is drawing from 4½ to 5½ per cent. in the bonds of the larger

OPENINGS FOR CAPITAL

Canadian cities, which are regularly quoted on the London Stock Exchange. There are, however, the more profitable bonds of smaller municipalities, yielding interest at from 5 to 6½ per cent. These have up to the present always been underwritten by Canadian mortgage corporations, and owing to the fact that they are not quoted on the London Stock Exchange, which lists only the larger issues of debentures, they are not a form of investment well known to the European investor. Many of these municipalities conduct the sale of these bonds through their fiscal agents in Winnipeg, Montreal, or Toronto, who direct all negotiations, from the fixing of the amount asked to the marketing of the bonds. There seems to be no reason why the British investor should not share in this safe and profitable form of investment. He can safely do so by dealing direct with reputable bond houses in the Dominion.

Another form of investment which affords an abundant margin of safety, which yields a 6 per cent. return and over, and is readily convertible into cash, is found in the better class of industrial bonds. Ready convertibility may be ensured by confining purchase of industrial bonds to issues sponsored by strong and old-established bond houses. Such houses will always make a market for their own bonds. A well-known Canadian financial publication lays down the following rules for the direction of the investor in industrial bonds: "Guard against over-capitalization in bonded debt; consider only companies dealing in staple products; net earnings for the past five years should be at least double the interest charges; capital actually paid up in cash should be considerably larger than the bonded debt; the management should be in the hands of men of repute as to ability and integrity; the business should not be one whose plant and organization can be quickly and easily duplicated."

The natural resources of the Prairie Provinces, such as coal, timber, and mineral deposits, to a great extent un-

developed, will undoubtedly afford a very profitable field for investment in the early future, and at the present time offer a very attractive subject for investigation by men with practical experience in these lines. Very little has yet been done towards exploiting mineral resources, which, more particularly in the northern parts of the three provinces, are known to be abundant. Large quantities of valuable timber still remain untouched, and it is seldom that a new district is opened up without reports being received of discoveries of natural resources of commercial value. Some of the deposits known to exist in large quantities in many parts of the West are: limestone, with clay and shale for Portland cement; calcareous shales suitable for natural cement; gypsum; friable sandstone for glass; clay for the brick and tile industry; lignite coal and peat for fuel, and many others of commercial value. Large quantities of coal are, of course, mined in Alberta; and British, along with Canadian and United States capital, is being used in the development of this and various mining industries throughout the West. Development of the natural resources of the West is, however, only beginning, and much buried treasure will doubtless be disclosed during the next few years. At the time of writing, exceptional activity is reported from the Rice Lake area in Manitoba, in which gold has been found over a large area. If present indications may be taken as a guide, this area will be producing in paying quantities shortly. Iron and specimens of copper ore are by no means uncommon, and discoveries such as have made Sudbury and Cobalt world-famous are by no means beyond the range of possibility.

Another phase of industry offers unique opportunities for men with money and a knowledge of some line of manufacturing. The Western Canada market for manufactured goods, probably the largest growing market in the world to-day, is so extensive and varied in its demands that it will be many years before the West will be able to

make what it uses and consumes. With the protective tariff on the United States border and the long freight hauls from Eastern points, unique opportunity is afforded for the production on the spot of almost every class of manufactured goods. With other facilities, such as cheap power, good labour conditions, splendid transportation, and an illimitable supply of numerous raw products, an important manufacturing centre is slowly but surely being established in the West. Almost every city and town in the three provinces, as well as the railways, have departments formed and equipped for the express purpose of attracting the manufacturer, and are prepared to furnish free reports on any line of industry. Some of the railways, too, have industrial and commercial departments, which collect information regarding opportunities for men and money, whether they be for stores or boarding-houses, flour-mills or livery stables, or for any of the hundred-and-one needs of a growing community.

Apart from the immensely profitable occupation of the cultivation of cereals, which has been extensively advertised in Great Britain and elsewhere by the Government and railways, and forms the greatest wealth-producing factor in the West, the investor who is prepared to assist his capital by personal effort will find almost limitless opportunity in mixed farming, dairying, and market gardening. Agriculturists are largely engaged in the cultivation of wheat, and the rapidly increasing population demands more and more fresh vegetables; more milk, butter, and cream; more poultry and eggs; more beef, mutton, and pork. Indeed, so great has the demand become that a remarkable state of affairs exists to-day in the capital of Manitoba. Situated in the Red River valley, the soil of which is noted for its richness, Winnipeg annually imports, or receives from Eastern Canada, thousands of dollars worth of these comestibles. The Western Canadian demand for many years will continue to grow faster than the supply of these products can cope with it.



SASKATCHEWAN

By F. MACLURE SCLANDERS, COMMISSIONER, BOARD OF TRADE, SASKATOON

UNTIL recent years the mixed farming and live stock possibilities of this new country had scarcely been demonstrated in

a manner that was sufficiently convincing to the general public. Now, however, the case is quite different. Practically every crop

that can be grown to advantage in a similar latitude has been most successfully raised here, both experimentally and otherwise.

THE PRAIRIE PROVINCES OF CANADA

Our farmers are merely awakening to the fact that wheat is in no sense the most profitable crop that can be grown ; it is merely the easiest. The difference between our mixed farmers and our grain growers has been very definitely emphasized by the experience of the past two years ; and it would almost seem that we are now on the threshold of more encouraging development along proper agricultural lines. Grain growing is not farming, and is always liable to be a somewhat hazardous occupation. Doubtless all would be well if the price of wheat did not vary ; but, unfortunately, wheat, like every other commodity, is controlled by the law of supply and demand. The wheat grower has but one source of revenue, whereas the mixed farmer has many, and, in addition, the latter compels his land to fulfil its ancient function of providing nearly everything required for his table, and a good deal more. There is a magnificent opening throughout Saskatchewan for farmers carrying cattle, horses, sheep, swine, and poultry ; and the reward of the mixed farmer is very generous indeed, and very safe.

The somewhat persistent fallacy that the requirements of the West must of necessity be manufactured elsewhere has been rudely shattered of recent years. Take, for instance, the fact that Winnipeg is now the fifth largest manufacturing city in the Dominion of Canada ; and, just as the trend of immigration has been from east to west, and ever further westward, so will it be with the establishment of industries. Winnipeg's industrial importance of to-day will in the near future be reflected by cities of Saskatchewan. Coming events have already cast their shadows before them, and I do not think that there is one important point in Saskatchewan that has any reason to be discouraged by the industrial development

it has achieved during the past few years. Each of these cities has received its share ; and it is most encouraging to report that every industry so far established in Saskatchewan and the other Prairie Provinces has done exceedingly well. As a matter of fact, a history of these industries would show one extension after another, undertaken in a feverish attempt to keep pace with an astonishing increase in business.

British manufacturers would do well quietly to investigate Saskatchewan's industrial opportunities. I am satisfied that they could not fail to recognize many fallow and exceedingly fertile fields for industrial enterprise. In this connection it may be interesting to add that freight rates on raw material are low, while those on manufactured goods are high. Let me also add the somewhat remarkable and encouraging fact that freight rates from Great Britain to Saskatoon are only a trifle higher than the rate from Great Britain to Montreal. There are many businesses which may be profitably opened at any point in Saskatchewan, among which the following are a few : Soap works, ready-made clothing, shirts and white wear, ladies' skirts, blouses and costumes, knitted goods of all kinds (caps, gloves, and underwear), confectionery, working gloves and overalls, wire fencing, tin ware, flour, cereal, and linseed oil mills, biscuit factories, &c.

Again, the towns and cities of Saskatchewan have, one and all, recognized the desirability of encouraging industrial activity in their midst, and towards this end have spent a great deal of money in securing the very latest power plants. Power, therefore, is cheap—in fact, remarkably cheap. Further, manufacturers will find our cities both generous and reasonable in their consideration of any business-like proposition submitted by responsible people.

An unlimited amount of money may be safely invested in first mortgages on improved farm lands, and also in the building of business blocks, dwellings, &c. Such money can be handled through our responsible real estate and financial firms, and will yield 7 to 8 per cent. On lands, merely 40 per cent. of the conservatively assessed value is advanced on first mortgage, leaving a safety margin of 60 per cent. With business blocks and dwellings the amount advanced is usually 60 per cent.

The building of houses and business premises is a particularly safe and profitable line of investment. Dwellings, as a rule, yield from 15 to 30 per cent. ; but even 15 per cent. is a very good return, while the natural appreciation of the property upon which the building is located far more than covers depreciation. We are specially in need of dwellings for working people. These could be built and rented so as to secure from 10 to 15 per cent.

Needless to say, a great deal of money has been made in good inside property in all Western cities, and I am satisfied that there is just as much opportunity to-day in this direction as there ever has been in the past.

It is true that more money is required to-day. But it should be remembered that when land could be purchased for a few hundred dollars a lot, the possibilities of the West were far from being appreciated. In the past the element of hope entered very strongly into investments. To-day, however, investments may be made in all directions upon proved realities. The European investor who seeks in Saskatchewan a fair return upon his outlay, a return greater perhaps than he could secure at home, may speculate if he chooses ; but there is no necessity for him to do so.



ALBERTA

By GEORGE M. HALL, INDUSTRIAL COMMISSIONER, EDMONTON

IN common with the other Prairie Provinces, Alberta has wonderfully rich soil. Planted to any crop that will grow in this part of the world, Alberta land produces enormous quantities of grain, vegetables, and hay. In its wild state the soil of the prairie grows heavy pasturage,

made up of native grasses, wild peavine, and vetches—all of these grow abundantly and afford feed for cattle, horses, and hogs.

The climate of Alberta is healthful and enjoyable. Summer days are delightfully long, and are generally marked by brilliant sunshine. The longest summer days con-

tain 18 hours of sunlight, and the evenings are much given over to sports and games, the long days making it possible for men to engage in work or business throughout the ordinary working hours and to have plenty of time for sports and pastimes outside of their working day. It would

OPENINGS FOR CAPITAL

be idle and untrue to say that the winter climate of Alberta is mild, but it is quite true to say that it is altogether endurable and even enjoyable.

Men work at out-of-doors occupations throughout the winter—though not as freely as in the summertime, and horses and cattle feed on their ranges all the winter and are in good condition when spring comes. The light, dry quality of the snow makes it easy for horses to paw through it to the grass beneath, and this same quality accounts for the fact that snow blockades of steam or street railways in Alberta are, if not quite unknown, very rare indeed.

Alberta is also blessed with a bountiful supply of fuel, both wood and coal. There are large sections of the province that have little wood, and some parts where there is no coal mined, but in which large areas are underlaid with coal, so that, with the generally excellent means of railroad transportation, no part of the province is out of touch with a good and sufficient supply of coal. In many places farmers are able to go out and dig their coal with pick and shovel and to cart it home. Central and Northern Alberta are well supplied with wood, and there are great natural gas fields in the southern parts of the province.

Indeed, soil, climate, and natural resources have been bestowed upon Alberta in quality and quantity, excellent and sufficient. Thus, fitted by Nature for supporting a large population, Alberta offers a field for the investment of capital, and for the employment of man's labour and skill, far beyond the ordinary. This field may be divided into three sections—the agricultural, the commercial, and the industrial.

The advantages of the agricultural situation in Alberta are too obvious to need more than a passing word. Alberta soil is generally of the richest; there are parts of the province that should be avoided by the farmer, but these parts are small compared with the great fertile sections. Sufficient rainfall, rich soil, luxuriant growth of herbage, good water, and plenty of it, all go to make farming easy and profitable. The province is especially adapted to mixed farming.

About 65 per cent. of the population of Alberta is engaged in farming, but no more than 3 per cent. of the land good for farming is under cultivation.

The farming population, and the people of the province generally, are remarkably

prosperous and buy liberally manufactured goods that suit their tastes. Nearly all of these goods are made from 2,000 to several thousand miles from Alberta. Commercially, it takes a large number of stores, banks, financial agencies, loan, and insurance companies, and the like, to transact the business that has grown out of the development of a very small part of Alberta's agricultural riches. The commercial needs of the province are taken care of better than its industrial requirements, but there are very many opportunities in both directions.

Realizing these opportunities, and the value of them to themselves and to persons who put capital and personal endeavour into them, Albertan cities have gone to some expense and trouble to advertise the industrial and commercial opportunities of the province. Many of them have formed plans by means of which new industrial and commercial enterprises are offered encouragement to establish factories and offices.

These plans differ with the several cities, but it may be set down as a general statement that bonuses for new industries, or for new commercial enterprises, are not given by Alberta cities. There are exceptions to this rule, but the rule is general nevertheless. Edmonton, the capital city of Alberta, has purchased two large pieces of land upon which it offers sites for industrial use upon a low yearly rental—6 per cent. of the valuation of the land and the yearly tax. The Edmonton industrial sites are included in a tract of land containing some 80 acres lying about 1½ miles north of the centre of the city, and a larger tract of about 140 acres that is located about 3 miles south of the centre. Both of these tracts are served with railroads, and the city will shortly cause them to be thoroughly equipped with power, light, water, sewerage and telephone systems, and street car service.

Edmonton is also considering plans to supply its industries with natural gas. Investigation of the natural gas field in the country about the city shows that a supply can be had from the Pelican Portage gas-field, 140 miles distant, and it is planned to bring natural gas to Edmonton at a cost not to exceed 15 cents per 1,000 cubic feet for use in industrial purposes, or 30 cents per 1,000 cubic feet for domestic use.

Without natural gas, Edmonton is still well equipped for the establishment of

industries. The city is situated directly over coal beds 10,000 square miles in area and containing coal estimated at 60,000 million tons. This coal is excellent for local use but does not keep long under exposure to weather, and is not, therefore, the best coal for transportation to distant points for storage, but it is a good and cheap fuel for use on the spot and may be shipped to towns not too far away.

The city levies no tax upon improvements nor any business nor income tax; taxes are levied upon the land alone, and local improvements—water, sewer, pavements, and sidewalks—are paid for by the owners of property abutting on the streets thus improved.

Calgary, at present the largest city in Alberta, offers industrial sites for sale at \$1,200 (£240) an acre. Water and light are sold at cost for industrial purposes, and payment for manufacturing sites is extended over six years. The small manufacturer is thus afforded an opportunity to purchase land for his factory without seriously impairing his capital, which is sometimes none too large for the purposes for which it is required.

Medicine Hat is the natural gas city, and also the bonus city, of Alberta. The gas is given to manufacturers who meet the requirements of financial and industrial stability laid down by the city government. Medicine Hat also gives free sites to manufacturers, some 900 acres having been purchased for the purpose. The gift of gas includes a supply for power, light, and heat for five years. A price of 5 cents per 1,000 cubic feet is fixed for gas used after the five-year term expires. A fuel supply is assured, should the gas fail, by a guarantee of coal at not more than \$1½ a ton. Water is furnished to factories at from 5 to 10 cents per 1,000 gallons.

Lethbridge advertises as inducements offered for industrial houses: coal at 50 cents a ton; electric power at 2 cents per kilowatt-hour; natural gas at 15 cents per 1,000 cubic feet; sites at nominal cost; water at cost of pumping; and concessions of taxation based upon the conditions that attach to the industry proposed to be located in the city.

Macleod offers free sites; water at cost; natural gas at 20 cents per 1,000 cubic feet; and tax concessions dependent upon the size of the plant to be established and the value of its pay-roll. Macleod also offers steam coal at \$3.05 per ton.

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Camrose is ready to supply, through its Board of Trade, trackage at \$12 a frontage foot and electric power at cost. Camrose also offers the advantage of a low tax rate.

Taber gives tax exemption to approved industries for a term of years and furnishes water, fuel, and light at cost. Taber is in the centre of Southern Alberta coal beds and has 11 mines in operation. This coal shows 59 per cent. of fixed carbon and is good fuel and cheap.

Raw materials for manufacture in Alberta are clay that will make, according to the district in which it is found, bricks, drain tile, floor tile, pottery; grain for making flour, breakfast foods, &c.; hides for belting, tanning, and for harness, saddlery, and heavy shoes; by-products of abattoirs for making soap, glue, buttons; sheep pelts for lining coats, and cowhides—tanned with

the hair on—for winter coats; flax seed for oil and oilcake, and millions of tons of straw for making strawboard, paper, coarse textiles—this last from flax straw. There are great stores of wood for making pulp in Alberta and water power for grinding the pulpwood, but, thus far, nothing has been done to develop this source of industrial growth. Beyond a doubt, this pulpwood will be made into paper by somebody before many more years have passed; and it is certain, also, that the straw which is now burned will one day be utilized to produce vast quantities of merchantable goods.

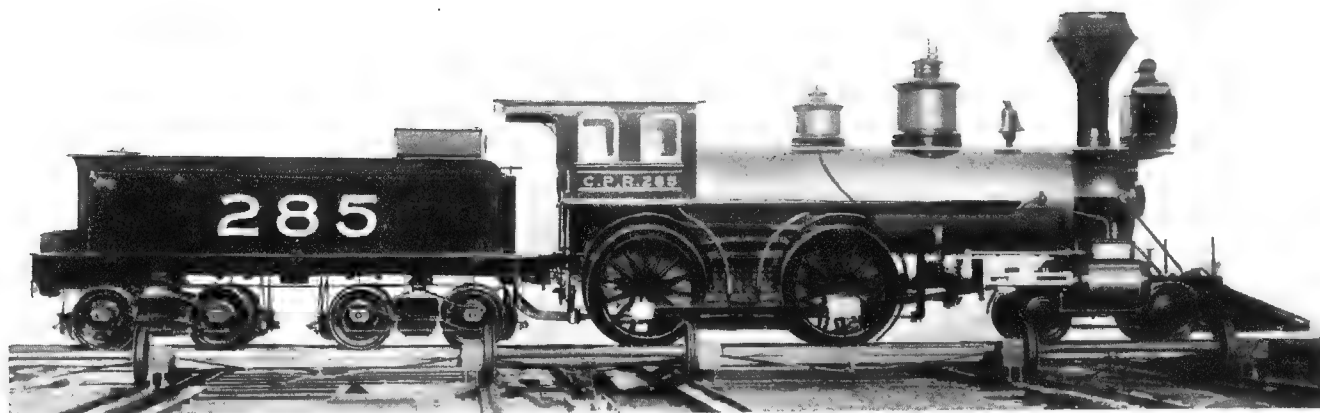
There are still stores of raw material to be brought to light from the great country in North-Western Alberta. It is known that this country contains coal, iron, mica, gold, oil, natural gas, tar sands, marl for making cement, and much timber. At

present, there is no adequate means of transportation, and such prospecting as has been done has not determined the exact value of the mineral deposits of the Great Last West; it is not known, for instance, whether the iron ore is there in large enough amount to make mining profitable, or whether the percentage of bitumen in the tar sands—about 20 per cent.—is enough to make these deposits highly valuable for pavement purposes.

But it is a determined fact that Alberta is a province immensely rich in agricultural resources, and that only a small part of these resources has been turned to account. It is, of course, possible to lose money in Alberta, possible to fall short of success; but the likelihood of failure is far slighter in Alberta than in older countries of which the natural resources have been fully developed.



ELEVATORS, CARNDUFF STATION.



THE FIRST ENGINE BUILT BY THE C.P.R.

RAILWAYS AND RAILWAY DEVELOPMENT

Canadian Pacific Railway



F the immense territory penetrated by the rails of the Canadian Pacific Railway, no portion has been the scene of greater activity on the part of that organization than the provinces of Manitoba, Saskatchewan, and Alberta. The Canadian Pacific Railway has, in fact, been compelled to strain every nerve in an attempt to keep pace with the constant expansion that has occurred of late years in the cultivated area of these provinces. The fact that other railroad companies have proved themselves no less anxious to secure a part of the grain-carrying trade has affected the question but little. For so vast is the area to be covered, and so rapid has been the spread of agricultural development, that even the resources of the greatest railway in the world would prove insufficient if left to deal single-handed with the requirements of this portion of the Dominion.

Of the complex system of lines which to-day constitute the Canadian Pacific Railway in the Prairie Provinces, the original main artery, winding from Winnipeg through Regina, Medicine Hat, Calgary, and Banff to Laggan, forms but a comparatively small portion. Yet upon this line alone the constructional work now being prosecuted constitutes a colossal undertaking, for throughout this stretch of 953 miles the company is laying an additional track which will be continued to Vancouver. Of the immense advantage which will accrue to trade from the com-

pletion of this line it is unnecessary to speak, though it may be interesting to place on record the generally accepted suggestion that the double track will accommodate more than four times the traffic carried by the single line at present in service. To the north and south of the transcontinental lines a network of steel links the Canadian Pacific Railway with nearly every town at present of importance in the three provinces. Whilst in some instances rival railroads possess a shorter route from one point to another, it is a difficult task to discover an important centre to which the enterprise of the greatest of transport companies has not found a means of access.

A development, of which more is likely to be heard in the future, is that initiated by the extension of the line running through Winnipeg, Souris, and Weyburn, westward to Stirling. From this point it is intended to carry the extended line across the Rockies through Penticton and Hope to Vancouver.

Whilst the gradients on this line will be far less severe than on the existing route, a saving of 403 miles in distance will, it is anticipated, be effected between Winnipeg and the Pacific.

The actual mileage of the Canadian Pacific Railway, both constructed and under construction, within the Prairie Provinces stands as follows:

MANITOBA.

Mileage now constructed—

Main line	...	...	308.4
Branch lines	...	...	1,295.0

———— 1,603.4

Mileage under construction 118.3

403

SASKATCHEWAN.

Mileage now constructed—

Main line	...	...	414.8
Branch lines	...	...	1,971.4

———— 2,386.2

Mileage under construction 334.0

ALBERTA.

Mileage now constructed—

Main line	...	...	337.5
Branch lines	...	...	1,092.7

———— 1,430.2

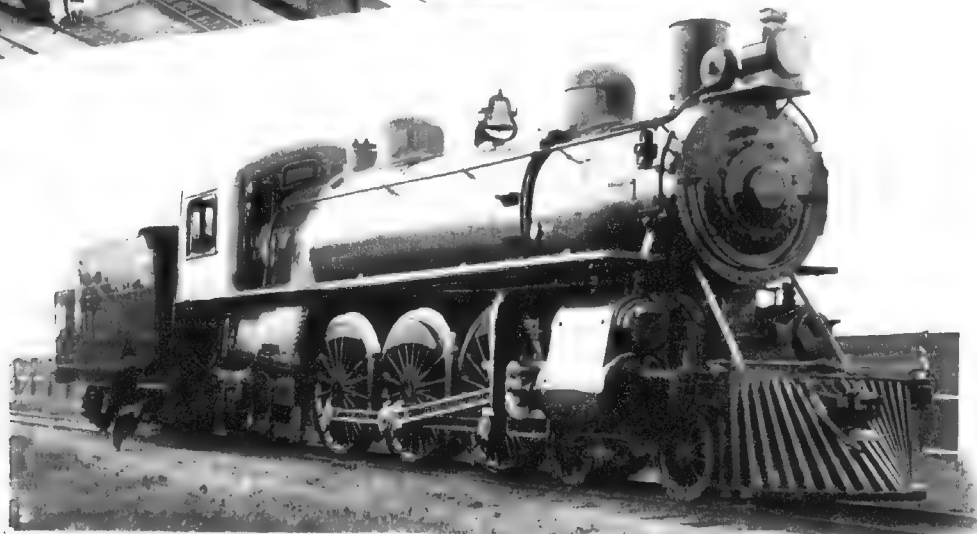
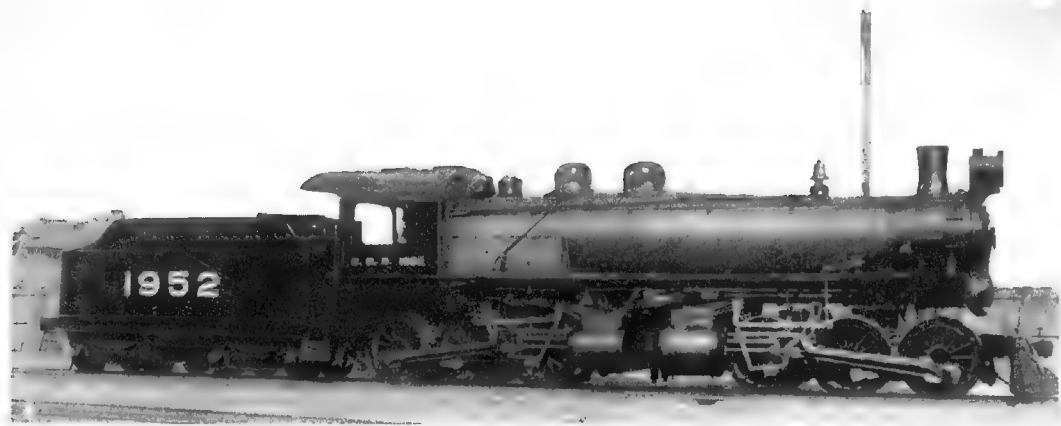
Mileage under construction 489.5

———— Total mileage constructed 5,419.8

The running organization of a railroad naturally takes but small account of provincial boundaries, and it is for this reason somewhat difficult to give specific figures as to the locomotives and rolling stock to be found in the three provinces. The following figures, however, which indicate the number of locomotives of some of the more important types stabled in Manitoba, Saskatchewan, and Alberta in the month of May, 1913, will serve to suggest the vast amount of haulage force which the company is called upon to supply:

Manitoba Division.

Class of Engine.	Type.	Dimensions of Driving Wheel.	Number.
D	10	4-5-0	63 in. 118
D	4	4-5-0	62 " 29
A	2	4-4-0	63 " 47
G	2	4-6-2	69 " 30
W	3	0-6-0	52 " 39
Other types	—	—	— 69
Total			332



1. C.P.R. COMPANY'S YARDS AT WINNIPEG, 120 MILES OF TRACKAGE.
 2. HEAVY C.P.R. PASSENGER TRAIN LOCOMOTIVE. 3. MALLETT ENGINE USED BY C.P.R.



1. OBSERVATION CAR, C.P.R.
2. C.P.R. FIRST CLASS, ELECTRIC-LIGHTED SLEEPING CAR, WITH BERTHS MADE UP.
3. C.P.R. DINING CAR.

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Saskatchewan Division.

Class of Engine.	Type.	Dimensions of Driving Wheel.	Number.
D 10	4-6-0	63 in.	82
D 4	4-6-0	62 "	23
A 2	4-4-0	63 "	12
G 2	4-6-2	69 "	21
W 3	0-6-0	52 "	13
Other types	—	—	65
Total ...			216

Alberta Division.

Class of Engine.	Type.	Dimensions of Driving Wheel.	Number.
D 10	4-6-0	63 in.	73
D 4	4-6-0	62 "	19
G 2	4-6-2	69 "	18
M 1	2-8-0	57 "	31
M 2	2-8-0	57 "	27
N 3	2-8-0	63 "	21
Other types	—	—	128
Total ...			317

Total number of engines stabled in the Prairie Provinces, 865.

The figures in column 1 denote the classification adopted by the company; those in column 2 the wheel arrangement of the engine, *i.e.* 4-6-2, indicates a locomotive carried by 4 pilot wheels, 6 driving or coupled wheels, and 2 trailing wheels below the driver's cab; similarly 4-6-0 indicates a locomotive with a similar number of pilot and driving wheels, but without trailing wheels. The height of the driving wheels shown in column 3 is interesting for the purpose of comparison. Speaking generally, the greater the dimensions of the driving wheels the greater the speed, the speed falling and the tractive force increasing as the dimensions of these wheels diminish. For the benefit of the reader who cares to compare the driving-wheel dimensions of British and Canadian engines, we may mention that the most generally accepted height in Britain is, for express work, 80½ in. and for freight engines 54 in. Owing, however, to a greater loading gauge and the consequent possibility of increased height, Canadian locomotives carry usually a larger boiler than their British prototypes.

The number of cars of all types employed on the Western lines on June 30, 1913, is shown in the accompanying table.

Probably, however, the figures which most powerfully affect the imagination of the unprofessional reader are those dealing

TYPES OF CARS EMPLOYED ON WESTERN LINES, JUNE 30, 1913.

	Box.	Refrigerator.	Stock.	Flat.	Coal and Coke.	Tanks and Ore.	Work.	Total.
Manitoba ...	13,121	161	1,010	1,258	77	34	415	16,076
Saskatchewan ...	4,817	87	307	966	235	5	352	6,769
Alberta ...	7,031	192	775	1,776	1,058	29	244	11,105
British Columbia ...	3,310	254	372	649	291	484	274	5,634
Total ...	28,279	694	2,464	4,679	1,661	552	1,285	39,584

with the grain crop. From September, 1911, to August 31, 1912, 121,605,000 bushels were transported by the Canadian Pacific Railway in 99,845 cars; whilst from September 1, 1912, to June 14, 1913, no fewer than 103,836 carloads, or 142,468,000 bushels were moved.

The prodigious irrigation scheme carried out by this railway and the land policy, which alone forms an enterprise of colossal proportions, are elsewhere dealt with. The reader, however, who would form a just estimate of the influence and work of the Canadian Pacific Railway in Western Canada should glance beyond the lines which mark its tracks upon the map. For it is scarcely too much to say that there is no important phase of a settler's life in which one or other of the multitudinous departments of the company is not actively and beneficently interested.

Grand Trunk Pacific Railway

The approaching completion of the Grand Trunk Pacific Railway is a fact the full importance of which is scarcely appreciated to-day except amongst those directly interested. As it stands at the moment this line may be roughly divided into two portions, part of it, running eastward from Winnipeg, having been constructed by the Dominion Government, and part of it, running westward from Winnipeg, having been constructed by the company itself. The agreement concluded between the railway and the Dominion Government regarding the eastward portion of the line is somewhat complex, the railway being pledged to take over this section of line on a lease of 50 years at a rental equivalent to 3 per cent. upon the cost of construction. Inasmuch, however, as this section of the railway is unlikely to produce a revenue for some years,

STATEMENT OF C.P.R. MILEAGE IN CANADA, JUNE 30, 1913.

Atlantic division...	773'17	
Dominion Atlantic Railway ...	294'00	1,067'17
Eastern division...	1,594'65	
Quebec Central Railway ...	256'86	1,851'51
Ontario division...	1,298'80	
Under construction ...	183'51	1,482'32
Lake Superior division ...	1,108'87	1,108'87
Manitoba division ¹ ...	2,359'46	
Under construction ...	173'30	2,532'76
Saskatchewan division ¹ ...	1,871'94	
Under construction ...	205'00	2,076'94
Alberta division ¹ ...	1,783'47	
Under construction ...	471'30	2,254'77
British Columbia division ...	1,149'48	
Under construction ...	68'80	1,218'28
Total mileage ...		13,592'61

¹ These divisions have been determined by the exigencies of the service, and are not geographically exact.

RAILWAYS AND RAILWAY DEVELOPMENT

it has been further agreed that the rental shall not be charged in full for an initial period of seven years.

Westward of Winnipeg the line was constructed by the Grand Trunk Pacific Railway, whose property it is. Government aid was awarded this venture in terms which differed according to the nature of the route to be traversed. In the mostly flat country of the Prairie Provinces the

stock. After leaving Edmonton the railway traverses a more broken country to Wolf Creek, 123 miles distant, at which point the western or mountain division of the railway may be said to commence.

Of the 1,774 miles which separate Winnipeg from Prince Rupert, the line is in operation to Tête Jaune in British Columbia, a distance of 1,096 miles. Another link of constructed line runs eastward from

in fact, the shortest and most convenient between these cities.

Amongst the towns which have sprung up as a result of the building of the line may be mentioned Rivers, Melville, Watrous, Biggar, Tofield, Edson, and Jasper. It would be difficult to find any better illustration of the influence exercised by the railroad over the development of the country than is contained in the bare state-



1. INTERIOR OF A G.T.P. STANDARD SLEEPER.

2. INTERIOR OF A G.T.P. DINING CAR.

assistance rendered by the Dominion took the form of a Government guarantee of the company's first mortgage bonds to the extent of \$13,000 per mile. Bonds were issued to produce a sum equal to 75 per cent. of the cost of construction, and the guarantee was made to run for a period of 50 years.

The Grand Trunk Pacific main line, after leaving Winnipeg, skirts the southern edge of the Lake district of Manitoba until Ingelow is reached, where it strikes more sharply to the north-west, threading, on its way to Edmonton, a new and wonderfully arable agricultural country adapted to the cultivation of cereals and the raising of

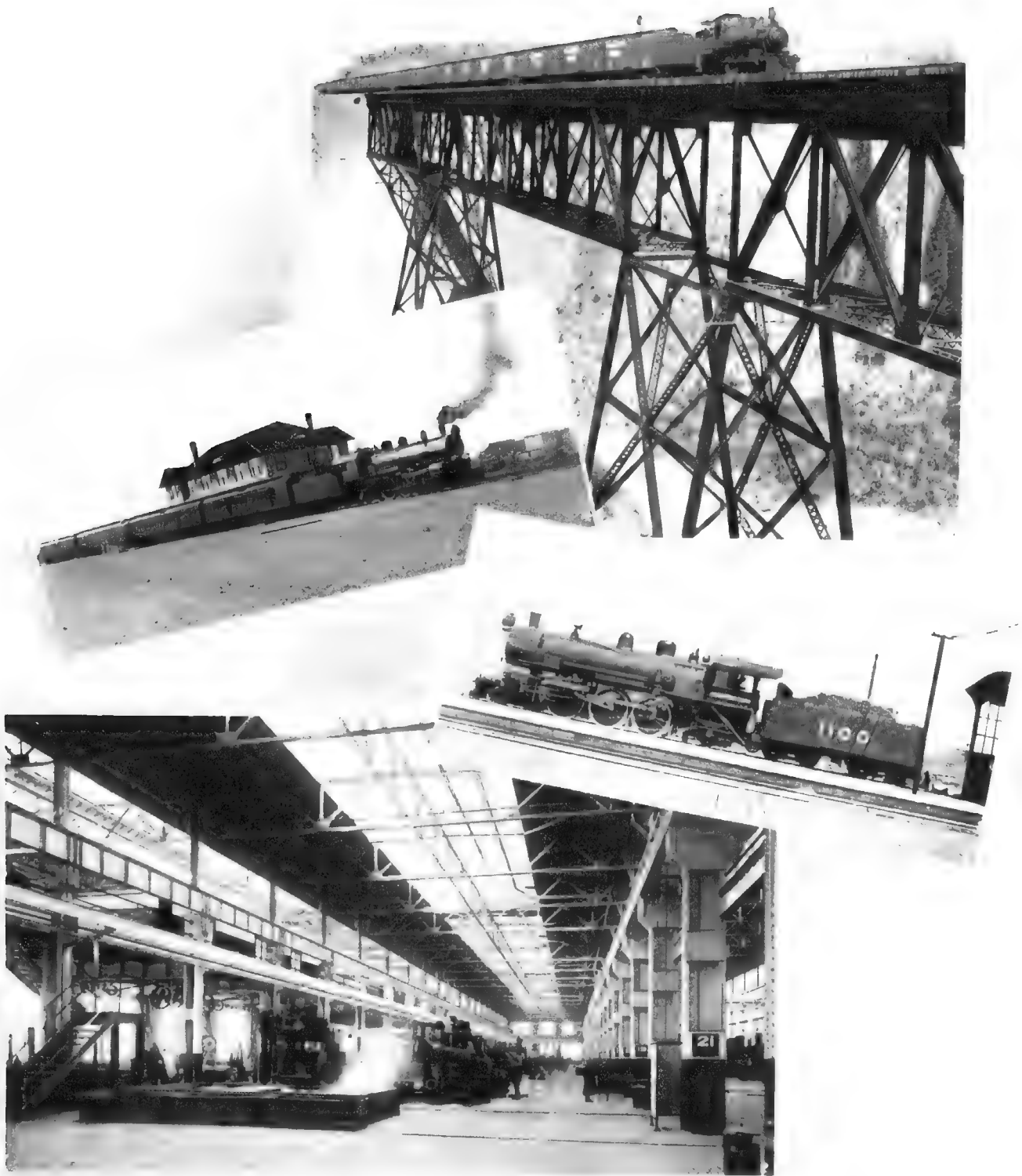
Prince Rupert, 303 miles, to Rose Lake, B.C. Work in the intervening country is being continually prosecuted, and there is every probability that the railway will be operated as a transcontinental railroad during 1914 or early in 1915. The most prominent towns in the Prairie Provinces served by the main line of the Grand Trunk Pacific are Winnipeg, Portage La Prairie, Saskatoon, and Edmonton. Between Winnipeg and Edmonton especially the company has built up a considerable volume of traffic. An additional train has recently been placed in this service, and two trains each day now perform the journey in 27½ hours. The route of the Grand Trunk Pacific is,

ment that these towns are the product of the Grand Trunk Pacific.

Branch lines have been built, or are under construction, to connect this railroad with the cities of Brandon in Manitoba; Regina, Moose Jaw, Yorkton, Canora, Prince Albert, and Battleford in Saskatchewan; and Camrose and Calgary in Alberta.

The following interesting statement regarding the branch lines of the Grand Trunk Pacific within the Prairie Provinces has been furnished by the authorities of that railroad:

Melville-Regina branch: 98 miles in full operation from Melville, Saskatchewan, 279



1. PEMBINA BRIDGE, G.T.P.R.
2. INTERIOR OF MACHINE SHOPS, TRANSCONA, G.T.P.R.
3. STANDARD LOCOMOTIVE, G.T.P.R.
4. THE REGINA EXPRESS, G.T.P.R.

RAILWAYS AND RAILWAY DEVELOPMENT

miles west of Winnipeg. In conjunction with the trains on the main line, a double daily service is maintained between Winnipeg and Regina.

Melville-Canora branch : 55 miles in full operation north-easterly from Melville, giving train service to Yorkton and Canora in connection with main line trains.

Tofield-Calgary branch : From Tofield, Alberta, 752 miles west of Winnipeg and 41 miles east of Edmonton, to Calgary, a distance of 200 miles ; 163 miles are now in operation, the line is completed into Calgary, and trains will be in operation at an early date.

Alberta coal branch : From Bickerdike to Mountpark, 50 miles completed and in operation, serving a large coal-mining area south of Bickerdike and Edson.

Harte-Brandon branch : 26 miles all under construction, to be finished and operated within 1913.

Regina-Moose Jaw and North-Westerly branch : This branch has been completed between Regina and Moose Jaw, a distance of 41 miles, and on in a north-westerly direction to the Saskatchewan River, about 93 miles. It is now in active operation, and later will be continued to join the Biggar-Calgary Branch at a point near the Alberta boundary.

Regina Boundary branch : Runs in a south-easterly direction from Regina to the International boundary, a distance of 155 miles, on which construction has been completed and operation commenced. In conjunction with the Great Northern Railway, between the boundary and St. Paul a short route will be furnished from St. Paul to Regina, Moose Jaw, and other points in Western Canada.

Weyburn branch : A line of 13 miles in length from Talmage, on the Regina Boundary branch, runs into Weyburn and connects that town with Regina.

Young-Prince Albert branch : Runs due north for 112 miles from Young, Saskatchewan, to Prince Albert ; 67 miles are now in operation.

Biggar-Calgary branch : The line from Biggar (the fourth divisional point west of Winnipeg) will, when completed, furnish a short line between Winnipeg and Calgary. The line has now been completed and is in operation from Biggar to Loverna at the boundary between Saskatchewan and Alberta, a distance of 105 miles.

Oban-Battleford branch : 49 miles ; is completed and in operation.

Battleford Westerly ("Cut-knife") branch : Work is under way between Battleford and the Alberta-Saskatchewan boundary, a distance of 50 miles. It is hoped that this line will be completed during 1913.

During 1912 the Grand Trunk Pacific purchased 600 cars and 40 locomotives. In the same year, on June 1st, the Grand Trunk System opened at Ottawa a magnificent hotel, known as the Château Laurier, which had cost over £400,000 to build. The Fort Garry Hotel at Winnipeg, costing £300,000, was finished in the autumn of 1913 and opened on December 1st, and a hotel costing £200,000, to be known as the Macdonald, is being built at Edmonton. Another large hotel is being erected by the Grand Trunk Pacific at Regina, and is known as the Qu'Appelle. Plans are just being completed for a hotel at Prince Rupert, B.C., which will be on a corresponding scale. Hotels will also be built at mountain resorts in British Columbia.

Some faint idea of the traffic with which, when it is completed, this great railroad will be called upon to deal may be formed from the fact that during the year 1912-13 the Grand Trunk Pacific carried from the prairies to the East approximately 25,000,000 bushels of grain. During the same year about 600 miles of additional track were laid down. It was anticipated that by December, 31, 1913, the company would have in operation about 3,000 miles of track west of Lake Superior. Possibly the most notable extension of the passenger traffic within the last 12 months was provided by the opening of the line between Winnipeg and Fort William. Through this port and the port of Sarnia on Lake Huron the Grand Trunk Pacific provides, in conjunction with the splendid steamers of the Northern Navigation Company, the most picturesque and enjoyable route from the Western provinces to Eastern Canada. Leaving Winnipeg in the late evening, Fort William is reached about noon the day following. The steamer sails immediately after the arrival of the train, and, proceeding across Lake Superior, passes through the famous Soo Canal on the following morning. Sarnia is reached about 20 hours later. From that point the tourist can reach Toronto by rail within six hours. This route, which is exceedingly popular, offers a welcome alternative to the somewhat uninteresting and always tiring journey by rail. It provides indeed

easily the most pleasant and instructive method of transit between the Prairie Provinces and Eastern Canada.

Of the line eastward of Winnipeg it may be mentioned that the National Transcontinental has been completed to Cochrane, Ontario, a distance of 778 miles. The company contemplate running a service of passenger trains over this route in the summer of 1914.

Finally, as regards the Grand Trunk Pacific, the roadbed is throughout equal to the best in Canada ; the trains are well appointed, and a commendable effort is made to run to time ; the dining-car service is admirable, and those responsible for its welfare neglect no opportunity of adding to the already high reputation of the line.

Canadian Northern Railway

The Canadian Northern is a railway which in the future will certainly play a leading part in the development of the Prairie Provinces. As is generally known, the line as it exists at present is of recent growth, the title, "Canadian Northern Railway," being assumed as recently as 1901. Prior to that date the railroad consisted of about 1,200 miles of track, owned and operated by the various companies, from which the present railroad was formed. The history of the railway within the Prairie Provinces shows extraordinary enterprise and activity. In almost every instance rails have been laid in advance of population. This policy, however, has been abundantly justified, since in Canada, more so than in most countries, the railroad tends to provide its own revenue. Whilst it is not possible to record the advance of the railroad in detail, it may be of interest to note that the Canadian Northern Railway reached Edmonton in 1904, Prince Albert in 1905, and Regina in 1907. During 1911 over 480 miles of new track were laid down within the Prairie Provinces.

The past year (1912) has been one of considerable activity, over 893 miles having been added to the system. This total includes the following roads :

Winnipeg to Lake Winnipeg	50 miles
St. Albert to Yellowhead ...	252 "
Shellbrook to Denholm ...	87 "
Alsask to Munsen ...	131 "
Meriville to Athabasca ...	72 "
Strathcona to Camrose ...	46 "
Redville to Moose Jaw ...	86 "
Camrose, westerly ...	174 "
Drumheller to Calgary ...	85 "

THE PRAIRIE PROVINCES OF CANADA

The total mileage of Canadian Northern lines at present in operation is 4,317; the mileage operated by the Canadian Northern system being approximately 6,600.

It may be explained here that whilst the term Canadian Northern Railway is limited to the mileage west of Port Arthur, the Canadian Northern system includes several minor roads which will form part of the transcontinental system when the line now building across Ontario is completed. This line, which bisects the Algonquin National Park, will join the Toronto-Sudbury line. Though it lies beyond the boundaries of the Prairie Provinces, it must one day play an important part in developing them, since it is destined to provide the Canadian Northern rails in the west with direct access to Quebec in the east. This great undertaking will be completed, it is anticipated, in 1914, though some little time must necessarily elapse before the roadbed is sufficiently settled to permit of fast running. Canadian Northern steel is being laid from Sudbury to Port Arthur, a distance of 542 miles. From Edmonton westward to the Rockies in Alberta, 252 miles of line are being laid, and from the Yellowhead Pass, where the railway crosses the mountains, construction work is being energetically pushed forward to Port Mann and Vancouver.

The programme at present being prosecuted provides for a direct line from Saskatoon to Calgary and between Calgary and Edmonton. Another line, which should be completed within the present year, is that which will connect Prince Albert and North Battleford. Further, a line of considerable importance is being built to tap the deposits of the Brazeau coalfields, which are located in the foothills of the Rocky Mountains.

Mention has been made of the fact that construction work within the Prairie Provinces has frequently been undertaken in advance of population. Whilst competing lines have adopted a similar policy, the Canadian Northern Railway has been particularly vigorous in this respect. Lines so laid are necessarily somewhat roughly constructed. Speed, however, is a minor consideration, the main purpose being to open up the country and to handle the grain traffic which must result when this object has been achieved.

In the case of the main lines of traffic these early methods no longer suffice, and

considerably more attention is, on these sections, given to the ballasting of the track. Whilst we are not concerned with the activities of the system eastward beyond the boundary of Manitoba, it may be

continually adding to its equipment, can be said to have kept pace with the demands made upon it. How considerable this increase has been within recent years the following table will show:

SUMMARY OF EQUIPMENT.

		At June 30th.		
		1912.	1911.	1910.
Locomotives	...	430	398	372
Sleeping and dining cars	...	64	50	43
Passenger coaches	...	307	226	203
Baggage and mail and express cars	...	90	90	79
Business cars	...	14	11	11
Freight, refrigerator, and stock cars	...	18,675	14,778	11,735
Conductors' vans	...	257	231	184
Boarding, tool, auxiliary cars, steam shovels, and snow equipment	...	594	481	416

of interest to mention that lines are being built to connect Toronto, Ottawa, and Quebec. From Ottawa to Hawkesbury a line is already constructed, and steel is laid from Hawkesbury to Montreal. A line from Montreal to Quebec is already in operation. In Montreal itself the construction by the company of a tunnel, 16,000 ft. in length, affording access to the heart of the city, provides one of the greatest engineering feats at present to be witnessed in Canada. One of the greatest difficulties with which Canadian railroads have to contend is provided by the grain crop, which must be moved within a limited period of time. The Canadian Northern Railway alone, during the fiscal year ending June 30, 1912, moved over 53,441,149 bushels, figures which show a marked advance over those for 1911. The strain which such an undertaking necessarily imposes upon the resources of a line, the greater portion of which is comprised of a single track, will readily be understood. The company, however, by

Land held by the company totals about 1,000,000 acres. This great expanse of country is well adapted to wheat growing and to the raising of oats, barley, and flax, to stock raising and dairying purposes. Owing to the fact that the value of Canadian land is steadily mounting, the company has not within the last two years pressed the sale of its lands, attention having been concentrated upon the opening up to the homesteader of those Dominion lands which are served by its rails.

The substantial increase which has taken place in the development of the industrial and agricultural resources of the country served by the railway is reflected in the following table. Including statistics covering grain, figures representing flour shipments show a total movement of over 60,000,000 bushels, or approximately 32 per cent. of the total inspected crop of Western Canada. As is pointed out in the current report issued by the directors, these figures supply conclusive proof of the productive value of the territory served by the company.

DESCRIPTION OF FREIGHT CARRIED.

		For Year ended June 30th.		
		1912.	1911.	1910.
Flour (sacks, 100 lb. each)	...	2,854,136	2,215,094	1,789,768
Grain (bushels)	...	53,441,149	40,249,939	37,355,010
Live stock, all kinds (head)	...	188,669	137,295	123,635
Logs and lumber (feet)	...	405,395,000	324,221,000	294,647,000
Firewood (cords)	...	227,030	210,625	189,535
Coal (tons)	...	804,803	370,161	282,718
Immigrants' effects (cars)	...	5,154	5,644	5,068
Building material, lime, stone, brick, sand, &c. (cars)	...	53,425	36,328	21,758
Miscellaneous (tons)	...	1,203,887	1,170,964	989,783



1. CONSTRUCTION WORK ON THE C.N.R.: THE BALLASTING GANG AT WORK, WEST OF PELLY,
SWAN RIVER VALLEY.
2. GRADING OPERATIONS ON THE C.N.R. LINE GOING INTO BRAZEAU DISTRICT, ALBERTA.
3. A SECTION OF THE C.N.R.'S YARDS AT SASKATOON, SASKATCHEWAN.
4. HUDSON'S BAY RAILWAY BRIDGE, LE PAS, MANITOBA.

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Hudson's Bay Railway

The Hudson's Bay Railway is designed to run from Le Pas, a station on the Canadian Northern Railway marking the present northern limit of railroad in Manitoba, to Port Nelson, a port on the Hudson's Bay. This line is being constructed as a Government undertaking. Work is being energetically pushed forward, and the line should be completed in the autumn of 1915 or early in 1916. As the crow flies, the distance between the two terminals is 412 miles; the route to be traversed, however, though for the most part offering few difficulties, will necessitate some detours, which will add a further 6 miles to this figure. The line will open up a valuable and virgin country; the prime factor in bringing about its construction has been the suggestion that it will furnish an alternative route by which the grain of the West may reach the markets of the East. To what extent this theory is founded on fact time alone can show; the scheme, however, is backed by leading men and by an influential section of the press of both political parties. The difficulties which beset the railways when called upon to handle the grain crop are by this time generally understood, but since they have some bearing upon the origin of the Hudson's Bay Railway it is allowable to refer to them. Grain is ready for shipment by rail towards the close of September, and from that date until early in December, when ice closes the lake harbours of Port

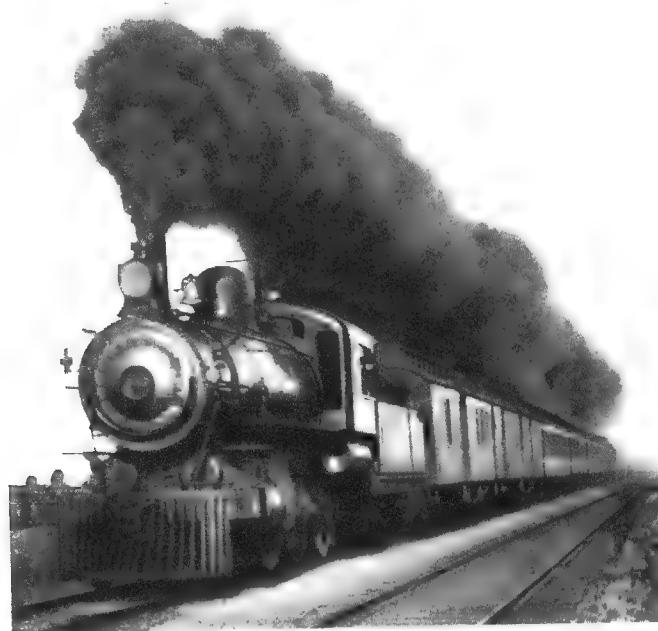
Arthur and Fort William, it moves eastward in quantities that increase year by year. This immense volume of traffic, however, produces a congested railroad, and delays are not infrequent. Both farmers and merchants therefore received with enthusiasm a proposal which was calculated to mitigate the hardship which is sometimes inseparable from existing conditions.

The advantages possessed by the Hudson's Bay route become more apparent when it is remembered that grain shipped, as at present, via Port Arthur and Fort William, and from thence by ship to railhead on the eastern shores of the great lakes, is handled at least twice and sometimes three times in transit.

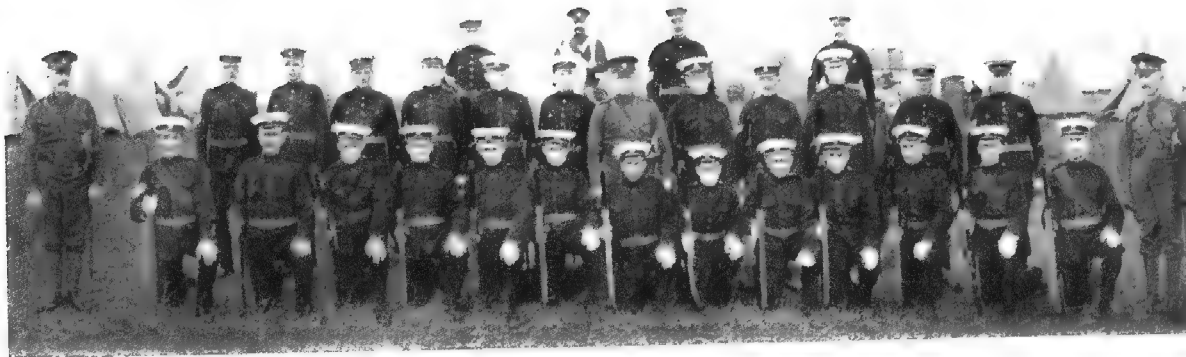
The objection to the route lies principally in the uncertainty which still exists as to the safety of navigation in Hudson's Strait during certain months of the year, the suggestion being put forward that underwriting charges will be such as to make the establishment of a steamship route through the Strait commercially unprofitable. However that may be, the railroad is being rapidly laid down and a harbour is being constructed at Port Nelson; nor should it be doubted that the line will prove of commercial value, since both the country that it will open to the settler and the great inland sea to which it will provide access possess resources, the full value of which probably exceeds the most sanguine estimate that has as yet been formed of them.

Opinion as to the most suitable northerly terminus for the line was for some time divided between Port Nelson and Fort Churchill. According to the report of the engineers appointed by the Dominion Government to survey the route, grade, curvature, and cost of construction worked out at approximately the same figure per mile in both cases. In so far as Fort Churchill involved an additional 8 miles of construction, however, the claims of Port Nelson were ultimately favoured.

Whilst an estimate of traffic must at the present moment of necessity be somewhat theoretical, it may be of interest to note that in the report already mentioned it is assumed that traffic upon this road will eventually amount to 3,000 trains per year, 1,800 running towards the Bay and 1,200 returning, the heavier total northward being accounted for by the greater quantity of freight which should pass in that direction. Another estimate, solely concerned with the grain traffic, may well be quoted. In this instance, during a limited space of time amounting to 30 days, 16 trains per diem are allowed, each train carrying 4,000 tons. It is improbable, however, that the heavy total thus reached will be exceeded, since it is unlikely that shipping could be secured to handle a greater quantity of grain within the limits of time imposed by the maturing of the crop in Western Canada and the movement of the ice in Hudson's Strait.



THE "IMPERIAL, LIMITED," THE GREAT C.P.R. TRANSCONTINENTAL.



WINNIPEG LIGHT INFANTRY.

MILITARY FORCES

BY MAJOR F. T. MURRAY, ADJUTANT, WINNIPEG LIGHT INFANTRY



DURING the past four years the growth of the Militia in Western Canada has been extraordinary. Regiments of infantry, batteries of artillery and squadrons of cavalry have been organized and brought up to full strength in a surprisingly short space of time. In the city of Winnipeg, Manitoba, there existed prior to 1908 one infantry regiment; to-day there are four. A new cavalry regiment, a battery of artillery, and two companies of the Army Service Corps, and other departmental troops have also been added to the Winnipeg garrison. Winnipeg is the headquarters of Military District No. 10. On account of its importance as a military centre, however, this district will shortly be raised to the status of a divisional area. There are at present six divisions in Canada, with headquarters at Montreal, Quebec, Halifax, Toronto, London, and Niagara; Winnipeg headquarters, embracing the 10th Military District, will be the seventh. It was shown at Camp Sewell that numerically it will be greater than all the other areas. Military District No. 10 includes the provinces of Manitoba and Saskatchewan, the territory of Keewatin, and the districts of Thunder Bay and Rainy River. The officer commanding is Colonel S. B. Steele, C.B., M.V.O., A.D.C., a soldier of nearly 50 years' experience in Western Canada, and one of the first members of the famous

Royal North-West Mounted Police. Colonel Steele was in South Africa during the Boer War, and received special commendation and promotion for his services. After serving for some years with the South African Constabulary, he returned to Canada to assume an important command.

The very onerous position of general staff officer for Western Canada is filled by Major L. J. Lipsett, an officer of the Imperial Army and a graduate of the Military Staff College, England, who is attached to the Canadian Militia for a period of four years. Major Lipsett's special province is that of tactical adviser and instructor to the officers of all arms.

The troops in the 10th Military District are:

6TH MOUNTED BRIGADE, MANITOBA.
12th Manitoba Rifles.
18th Mounted Rifles.
20th Border Horse.
36th Battery Canadian Field Artillery.
6th Cavalry Brigade Ammunition Column.
2nd Field Troop Engineers.
Wireless Telegraph Detachment.
18th Co. Canadian Army Service Corps.
16th Cavalry Field Ambulance.

7TH MOUNTED BRIGADE, SASKATCHEWAN.
16th Light Horse.
27th " "
29th " "
26th Battery Field Artillery.
7th Cavalry Brigade Ammunition Column.
3rd Field Troop Engineers.
Wireless Telegraph Detachment.

18th Co. Canadian Army Service Corps.
21st Field Ambulance.

20TH INFANTRY BRIGADE.

79th Regiment.

90th " "

100th " "

106th " "

OTHER TROOPS IN THE COMMAND.

Cavalry.

Lord Strathcona's Horse.
22nd and 32nd Light Horse.
34th Horse.

Infantry.

52nd Regiment.	96th Regiment.
60th " "	98th " "
95th " "	99th " "
105th Regiment.	

Other Corps.

Signalling Corps.
Army Medical Corps.
Ordnance Corps.

Military District No. 13 includes the province of Alberta and the territory of Mackenzie.

Headquarters, Calgary, Alberta.
District Officer Commanding, Colonel E. A. Cruikshank.

The troops in the Command are:

5TH MOUNTED BRIGADE.

15th Light Horse.
10th Alberta Dragoons.
23rd Alberta Rangers.
25th Battery Canadian Field Artillery.



1. GENERAL VIEW, CALGARY CAMP.

2. 79TH CAMERON HIGHLANDERS.

3. AT SEWELL CAMP, MANITOBA.

(By courtesy of the Stovel Engraving Company, Winnipeg.)



1. ONLY BOY SCOUT BRASS BAND IN CANADA, AT REGINA.
 2. CADETS, 16TH LIGHT HORSE, SASKATCHEWAN YEOMANRY. 3. 16TH SASKATCHEWAN LIGHT HORSE.

THE PRAIRIE PROVINCES OF CANADA

5th Cavalry Brigade Ammunition Column.
4th Field Troop Engineers.
Wireless Telegraph Detachment.
14th Co. Army Service Corps.
17th Cavalry Field Ambulance.

OTHER TROOPS IN THE COMMAND.

Cavalry.

21st Alberta Hussars.
35th Central Alberta Horse.

Infantry.

101st and 103rd Regiments.
13th Section Signalling Corps.

Ordnance Corps.

No. 13 Detachment.

Corps of Guides.

No. 13 Detachment.

In addition to the above troops there are large numbers of ex-Imperial Army men scattered throughout the West. Various veteran associations have been formed, one of which, the Veterans Brigade (head-quarters, Winnipeg), has an enrolment of 5,000 men, 75 per cent. of whom are under fifty years of age. No really serious effort has yet been made to organize this highly valuable reserve of fine fighting material, although probably with very little trouble

and expense it could be converted into an efficient fighting machine. Many of these men cannot spare the time demanded in the Active Militia, but would welcome target practice facilities, which would be all that is necessary, in view of their previous training, to make them a very formidable defence force.

The Permanent Force of Canada numbers about 3,000 men, their duties being the instruction and training of the Active Militia in the art of war. As the Canadian Minister of Militia, Colonel Hughes, recently remarked, the Permanent Force are the schoolmasters of the Militia. In their rôle of instructors the Permanent Force stationed in Western Canada find plenty to do all the year round. Practical instruction keeps them busy in the summer, and the autumn and winter are devoted to classes in theoretical work for officers and non-commissioned officers of the Militia. The utmost good feeling exists between the Permanent and Volunteer Forces, and the effect of this on the morale of those serving can scarcely be over-estimated.

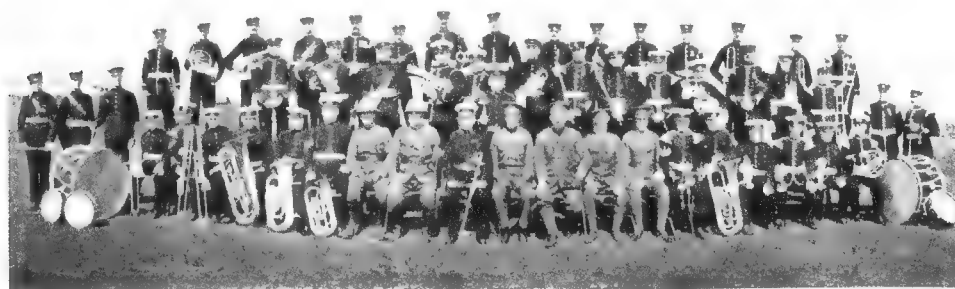
The law enacts that all males between the ages of 18 and 60 are liable to be called upon to serve in the Militia; but no difficulty is experienced in filling the ranks with the best possible material by purely

voluntary enlistments for three year periods.

General Sir Ian Hamilton, a very critical soldier, in a recent report issued after an inspection tour through Western Canada, describes the Western men as being "magnificent material and keen as mustard."

The training is very similar to that laid down for Territorial Regiments in England, the period in camp being 14 days for mounted troops and five days for infantry. The camp of 1913 will go on record as the best attended to date, upwards of 6,000 troops being present at Sewell Camp from Military District No. 10, and about 3,000 at the Calgary Camp, Alberta.

One of the greatest drawbacks to the Militia has been the absence of properly-constituted armouries and drill halls in the cities and towns, making it extremely difficult and, in most cases, impossible to hold any drill parades during at least four months of the year—that is, during the winter season. However, large sums have been allocated for erecting these buildings, and work has actually commenced in some places. These drill halls are to be models of completeness from a military point of view, and should make the Canadian militiaman independent of weather conditions.



MASSED BANDS, WINNIPEG GRENADIERS AND WINNIPEG LIGHT INFANTRY.

(By courtesy of the Stovel Engraving Company, Winnipeg.)



THE LITERATURE OF THE PRAIRIE PROVINCES

By PERCY EVANS LEWIN, F.L.A., LIBRARIAN, ROYAL COLONIAL INSTITUTE, LONDON



THE literature of Canada can be divided into four great divisions, roughly corresponding to the advance of civilization westwards. The first naturally relates to the discovery of the St. Lawrence and the settlement of the French in Acadia and at Quebec and Montreal. It includes the early history of the Maritime Provinces, the long conflict between French and English for the possession of the northern half of the continent, and the subsequent conquest of Canada by Great Britain. The second embraces the settlement of the British in Upper and Lower Canada, the operations of the Hudson's Bay and other trading companies, and the introduction of representative and responsible institutions. The third includes the exploration and settlement of the great unknown territory lying to the west of the Great Lakes, the journeys of the fur traders and the explorations in search of the Western Sea, the foundation of the Selkirk Settlement and the beginnings of Manitoba, and the final expansion due to the construction of railroads across those great prairies which almost as effectually cut off the province of British Columbia from the rest of Canada as if the Pacific Ocean had intervened between the Rocky Mountains and Montreal. The fourth division embraces the exploration of the

Pacific littoral and the growth and settlement of the new Western province. These four divisions, however, are so closely connected and the events that happened within their limits so nearly related that it is impossible to draw any hard-and-fast line between them. The literature of the one division trenches upon that of the other. Western Canada cannot be shut away from Eastern Canada. Nova Scotia can hardly be considered apart from Quebec, or the latter studied without considering the literature of Ontario. In the same way it is impossible to read the literature relating to Western Canada without being constantly reminded of the essential interdependence not only of the history of the two portions of Canada—west and east—but of the fact that much of the literature relating to the Dominion contains valuable information about the Prairie Provinces and the North-West Territories. But in the present article I shall confine my attention to literature that is more or less specific and relates almost entirely to the three provinces of Manitoba, Saskatchewan, and Alberta, or to the semi-Arctic lands lying to the north. Literature that is common to the whole Dominion will not be considered.

Restricted as is this investigation, there is yet a very considerable mass of printed literature to be studied, and for convenience it will be well to divide it into seven main divisions. The literature of the exploration

of the North-West will be followed by that relating to the Hudson's Bay Company and the administration of the vast territories placed under its supervision. The purely historical literature, which naturally does not present so large a field for the attention of the student, will give place to what may be termed the general literature descriptive of the three provinces, their settlement, industries, and resources; whilst the ethnographical books descriptive of the manners and customs of the Red Man, the books relating to sport and zoology, the literature of the Far North, and literature which can claim the West as its Alma Mater, will each be considered separately. So far as this last section is concerned, few writers have yet arisen who have drawn their inspiration from the natural scenery of Canada; from its sinuous waterways, its widespread prairies, or the magnificent grandeur of the Rocky Mountains. Few writers or poets have communed with nature. The solemn silences of the plains, the rush of the leaping waters, the monotonous expanse of the immense untenanted solitudes of the North, have not yet been interpreted, nor has the epic of endeavour that is rapidly transforming the country found its gifted singer. The poets of the West are yet in the womb of time. The literature of Western Canada is, therefore, chiefly descriptive and historical.

The descriptive literature opens with some of those early journeys of travel and

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adventure which form fascinating reading for the initiated, but require a preliminary course of study in order that they may be understood and appreciated. Some of the earliest of this literature relates to the journeys of La Vérendrye towards the Rocky Mountains. Pierre Gaultier de Varennes, Sieur de la Vérendrye, left Lake Superior in 1731 by way of Pigeon River on his way to the interior. He discovered Rainy River and entered the Lake of the Woods. By descending the Winnipeg River he reached Lake Winnipeg (Ouinipique, "muddy water") in 1734, and, entering the Red River at the mouth of the Assiniboine, he finally camped on the site of the present city of Winnipeg, where Fort Rouge was built in or about the year 1735. This properly marks the beginning of the West. Vérendrye's two surviving sons were carried still farther by the spirit of adventure. In 1741 they beheld the mighty snow-surmounted peaks of the Rocky Mountains looming distantly on the horizon. The romantic story of the adventures of the Vérendrye family; their heroic journey into the unknown and seemingly endless leagues of prairie that lay between them and the object of their endeavours, the great Western Sea, rumours of which were ever urging them forward; their encounters with the Redskins and their meeting with the Mandans, who, instead of being white men as had been reported, turned out to be Indians of a more civilized type than those farther east, form a fitting introduction to the fascinating history of the West. An account of the Vérendryes by Prudhomme is contained in the *Transactions* of the Royal Society of Canada, 1905; part of their journals has been reprinted in the Canadian Archives Report for 1899; and they are also being edited for the Champlain Society of Toronto. The three articles of Benjamin Sulte which appeared in the *Revue Canadienne* for 1873 also give a good account of these intrepid *voyageurs*. The route from Lake Superior to Hudson's Bay was first traversed by Joseph La France, a French half-breed, who was born at Michilimachinac in 1704. Although he has no place in the printed literature of the Canadian West, letters from him are quoted in Arthur Dobbs's "Account of Countries adjoining Hudson's Bay," published in 1744, and in the "Report of Inquiry into Hudson's Bay," issued in 1749. He was one of those pioneer fur traders who did so much to make known the vast

extent of the North-West Territories, of whom Alexander Henry the elder was one of the earliest to leave an account of his wanderings. The latter was born in New Jersey in 1739, and in his "Travels and Adventures in Canada and the Indian Territories," published in 1809, he describes his experiences in the West between the years 1760 and 1776. In the latter year he went to Europe, met Sir Joseph Banks, and had the opportunity of narrating his journeys to Marie Antoinette, who, as is well known, was always interested in tales of exploration and adventure. Henry was one of the first Europeans who penetrated to the plains of the Saskatchewan. A new edition of his travels, edited with a biography and notes by James Bain, was published at Toronto in 1901. His book is of some value, because it gives a good description of the Indians with whom he came into contact. His nephew, Alexander Henry the younger, entered the service of the North-West Company about the year 1792. The original manuscript of his journal is in the Library of Parliament at Ottawa. Henry's journal, issued under the title of "New Light on the Early History of the Greater North-West: the manuscript journals of Alexander Henry and of David Thompson, 1799-1814," was published at New York in 1897, with an introduction and elaborate notes by Elliott Coues. It describes their daring and thrilling adventures among the Indians on the Red, Saskatchewan, Columbia, and Missouri Rivers, and is one of the most important contributions to the inner history of the fur trade and of the North-West Company. Henry traversed the continent from Lake Superior to the Pacific Ocean, and resided for considerable periods at many places on the route. But the most satisfactory narrative of the customs and observances of the Indians, and one of the most fascinating books of travel in Canada, is by Samuel Hearne, who in his "Journey from Prince of Wales's Fort in Hudson's Bay to the Northern Ocean, in 1769-72," a book published in 1795, lays bare a large part of the northern portion of the American continent. Hearne was the first white man to gaze upon the Arctic Ocean from the northern coasts of Canada. He not only discovered the Coppermine River but he built forts for the Hudson's Bay Company, amongst others Fort Cumberland on the Saskatchewan. His narrative is a straightforward and most interesting account of the hardships he endured during his many

journeys on behalf of the Company, and its publication is due to a singular fortune of war, for when the fort on Hudson's Bay was surrendered by the unfortunate and heroic La Pérouse, he recommended to the British authorities that they should cause Hearne's manuscript journal, which had been found at the fort, to be printed. A new edition by J. B. Tyrrell was issued for the Champlain Society in 1910. Hearne's narrative is a classic of the North-West. Another book which is of equal importance is the "Voyage from Montreal to the Frozen and Pacific Oceans in 1789 and 1793," by Sir Alexander Mackenzie. This was published in 1801, and it is of great importance in the geographical history of Canada. As is well known, Mackenzie was the first European to travel overland from Canada to the Pacific, which he reached on July 22, 1793. He was undoubtedly the greatest pathfinder through the unknown wilderness, and his work looms larger in the eventful history of the North-West than that of any of his contemporaries or predecessors. His travels were translated into French, as had been those of Hearne, and a new edition was published at Toronto in 1902. A biography of Mackenzie, coupled with lives of Selkirk and Simpson, by Dr. George Bryce, has been issued in the "Makers of Canada Series." Another early traveller, Jonathan Carver, who had made a determined attempt to journey through the North-West to the Pacific Ocean, published an account of his travels under the title of "Travels through the Interior Parts of North America in the years 1766-8." The best edition was issued in 1781. There have been several editions and translations of this important work. Shortly after the Treaty of Paris, in 1763, Carver travelled through the territory handed over to England, and journeyed from the Michilimachinac to the Mississippi, ascended the Minnesota River, and returned by way of Grand Portage, Lake Superior.

From this period the opening of the North-West may be said to date. Amongst the archives of the Hudson's Bay Company, the historical papers preserved at Ottawa, the Haldimand Papers in the British Museum, and archives in other collections, there is a large number of documents and journals relating to explorations in the West. The most important that have been published have already been mentioned, but there are others of a later date which, whilst they are not,

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perhaps, of equal historical interest, are nevertheless of great importance, and are sometimes more readable than the earliest accounts. Amongst such is the record of the journey of Captains Lewis and Clarke, two Americans who led one of the most successful exploratory expeditions to the Pacific Ocean. It is an indispensable work in the early history of the Oregon Territory, but also contains much information bearing upon Western Canada. The first edition, entitled "Travels in the Interior Parts of America," was published in 1807. Several editions followed, that published in 1814 being the most beautiful in typography and mechanical execution of the editions of Lewis and Clarke's work. Its large margins, clear impression, and noble appearance are worthy of this excellent narrative. A large portion of the book is devoted to an account of the Indians and their customs. This edition was reprinted in three volumes at Toronto in 1902, and also at Chicago in the same year. A little later Gabriel Franchère, a Montreal Frenchman, who after many perils on the Pacific coast performed a memorable journey in 1814, crossed the Rocky Mountains, journeyed down the Saskatchewan River, crossed Lake Winnipeg, and continued through the Lakes to Montreal. The French edition of his "Relation d'un Voyage à la Côte du Nord-Ouest de l'Amérique Septentrionale," published at Montreal in 1820, is now very rare. An English edition was published at New York in 1834. This narrative formed the basis of much of Washington Irving's fascinating book "Astoria," to which it is little if at all inferior in interest. Other books published at this period were by Zebulon Montgomery Pike, who, however, chiefly confines himself to an account of the north-western portions of the United States, and by another American, Daniel Williams Harmon. The latter journeyed for over 5,000 miles north-west of Montreal and resided for nineteen years in the North-West. His "Journal of Voyages and Travels in the Interior of North America," published in 1820, is now a very rare book. It is a somewhat colourless narrative, but gives a good idea of the hardships that attended travelling at this period. It was reprinted at Toronto in 1904. In 1825, William H. Keating, the geologist and historiographer attached to the expedition which is generally known as Major Long's second expedition, published his "Narrative of an Expedition to the

source of the St. Peter's River, Lake Winnepeck, Lake of the Woods, etc. . . . performed under the command of Stephen H. Long," in two volumes. The narrative is carefully compiled, but although it is historically valuable it is not specially interesting. The first expedition, an account of which was written by Edwin James, the botanist and geologist, was from Pittsburg to the Rocky Mountains. The next important book on the North-West was written by Sir George Simpson, Governor-in-Chief of the Hudson's Bay Company's territories, and is entitled "Narrative of the Discoveries on the North Coast of America." This was published in 1843, and contains a good deal of valuable information about the Indians. It relates to the Red River Settlement, a winter journey from the Red River to Athabasca, and explorations on the Mackenzie and Coppermine Rivers. His "Voyage round the World," published in 1847, gives an account of a journey from the Red River country, through the Western territories, to California, and thence along the Pacific coast to Alaska. Sir George Simpson's book is the last of the epoch-marking narratives.

Later accounts of Western Canada bring us well into the period when the world was becoming alive to the value of the vast territories lying between the Rocky Mountains and the Great Lakes. Such a narrative is Milton and Cheadle's "North-West Passage by Land," published in 1865, which has been the fruitful mother of many works of North-Western travel that have since appeared. Lord Milton and his companion wrote a fascinating account of their journey, which is notable because the authors clearly foresaw the future prosperity of the region they traversed. At this period the possibility of constructing a railway from East to West was being seriously considered, and in 1872 Sir Sandford Fleming undertook his celebrated expedition across the continent at the request of the promoters of the Canadian Pacific Railway, in order to determine which would be the best route for the future highway of commerce. An account of this expedition, notable for keenness of observation, breadth of view, and a high power of descriptive writing, was written by Principal George Munro Grant, who accompanied Sir Sandford Fleming as secretary. This was published in 1873 under the title of "From Ocean to Ocean," and has since passed

through many editions. Of later books, the Rev. Daniel M. Dawson's "Mountain and Prairie," published in 1880, contains an account of a journey from Victoria to Winnipeg, via the Peace River Pass; Alexander Begg's "The Great Canadian North-West," published in 1881 at Montreal; H. M. Robinson's "The Great Fur Land, or Sketches of Life in the Hudson's Bay Territory" (1879), describing the hunters, Indians, and settlers; Alexander Staveley Hill's "From Home to Home" (1885), are interesting pictures of the North-West as it was in the early eighties, and mark the newly aroused interest in the possibilities of the great Prairie Provinces.

But before describing the recent literature on Western Canada it would be well to consider some of the books relating to that great trading monopoly the name of which was long synonymous with the North-West. Of recent years considerable attention has been devoted to the history of the Hudson's Bay Company. Not only is the story one of fascinating interest, but the picture presented is of a Canada that is rapidly passing away before the advent of agricultural settlers. The trapping and fur trading of the old Hudson days will soon be a thing of the past. Three good accounts of the operations of the Company have been issued. The first, by Dr. George Bryce, a Canadian writer who has done much to popularize the history of the West, is entitled "The Remarkable History of the Hudson's Bay Company," and was published in 1900. It also includes an account of the French traders and of the North-West, X Y, and Astor Fur Companies. Dr. Bryce at the time of writing this book had lived for 30 years in Winnipeg. His personal acquaintance with many of the chief officials of the Company and his intimate knowledge of the West gives his work an interest peculiarly its own. In addition, Dr. Bryce had the privilege of consulting many original documents. In the same year was published "The Great Company," an account of the operations of the merchant adventurers written by Beckles Willson, a young Canadian journalist. Mr. Willson also consulted original sources of information. A third book, entitled "The Conquest of the Great North-West, being the Story of the Adventurers of England known as the Hudson's Bay Company," was published at Toronto in 1908. This was by Miss Agnes C. Laut, a Manitoban writer with a keen eye for the picturesque and romantic, but also

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well able to sift the grain from the chaff and to carry on original historical investigations. The writing of these three historical works was made possible by the large number of early accounts of the Hudson's Bay Territories left by traders and others engaged in the work of the Company. The earliest of such accounts deal with the immediate neighbourhood of Hudson's Bay. The narratives written by Daniel Umfreville, who penetrated some distance inland and published his "Present State of Hudson Bay" in 1790; Anthony Hendry, whose journal, entitled "York Factory to the Blackfoot Country, 1754-5," was edited by L. J. Burpee in the *Transactions* of the Royal Society of Canada (1908), and gives an account of the wanderings of the first British trader on the Saskatchewan; John Robson, whose "Account of Six Years' Residence" was published in 1752 and contains much information about the Indians, are well worth reading. Robson's account is of some historical value. The appendix, entitled "A Short Account of the Discovery of Hudson's Bay, with Remarks upon the Evidence before the House of Commons," brings to mind the important Blue Book issued by the parliamentary committee of 1749 which inquired into the affairs of the Company. Arthur Dobbs's book has already been mentioned. These books are some of the most important of the earlier works dealing with the operations of the fur traders, and reflect the Hudson's Bay fever of the times. In the early years of the nineteenth century, owing to the disputes with the Selkirk settlers, there was a revival of interest in the doings of the Company. The "Diary of Nicholas Garry," which was published in the *Transactions* of the Royal Society in the year 1900, is an original source of information and a most valuable contribution to the history of North-Western Canada. Garry was deputy-governor of the Hudson's Bay Company, and Fort Garry was named after him. In 1848, Robert M. Ballantyne, a clerk in the Company's service, began that series of books which finally numbered more than 80 and endeared him to every English-reading schoolboy, with his "Hudson's Bay, or Every-Day Life in the Wilds of North America," a book illustrated by his own pen. It was at first issued for private circulation. Its success was immediate, and it subsequently passed through many editions. In the next year John McLean issued his "Notes of Twenty-

five Years' Service in the Hudson's Bay Territory," two volumes that contain a vivacious account of his personal adventures amongst the Indians and of their relations with the trading Company. It is now a very scarce book. In 1855 the Rev. John Rogerson, a missionary of the Methodist Episcopal Church, published at Toronto his "Hudson's Bay, or a Missionary Tour," and in 1858 an account of "Hudson's Bay and the Red River Settlement" was published by William Kernaghan. In the previous year a Select Committee of the Imperial Parliament had reported on the affairs of the Company. This report covered the whole operations of the Company, and included such matters as the administration of justice in Vancouver Island, the boundary question, the proceedings at the Red River Settlement, and relations with the natives. In fact, every nook and corner of the known portions of Rupert's Land was closely investigated. It is a most valuable report, and undoubtedly paved the way for the administration of the Company's vast territories under responsible government. Incidentally the report revealed many unknown localities to the people of Great Britain, and made them familiar with the operations of the fur traders.

An important collection of literature relates to the settlement founded by the Earl of Selkirk in opposition to the wishes of the fur companies. Lord Selkirk was one of the chief opponents of the policy under which it was sought to prevent the settlement of Western Canada. He recognized that there were "most extensive tracts of fertile soil, which, from the temperature of the climate, are perfectly capable of advantageous cultivation and . . . as fit to be inhabited as many of the well-cultivated countries of the North of Europe," and he estimated that this country would afford ample means of subsistence to more than 30 millions of British subjects. The views of this seer into the future are expressed in his "Sketch of the British Fur Trade in North America," the first edition of which was published in 1806. The stormy history of the settlement is told in the following books and pamphlets: "A Narrative of Occurrences in the Indian Countries" (1817), "Statement Respecting the Settlement upon the Red River" (1817), and the Blue Book published in the same year. The first presents the case for the North-West Company, and

is a reply to Lord Selkirk, whilst the second was written on his behalf, and is an important vindication of his aims and objects. It contains a minute account of the daring plot to annihilate the Red River Settlement. In 1824 the Rev. John West, who had been a chaplain of the Hudson's Bay Company, published his "Substance of a Journal during a Residence at the Red River Colony," which, although largely descriptive of the Indians, is of some value as a contemporary and first-hand account of the settlement; and four years later J. C. Beltrami published "A Pilgrimage in Europe and America," containing an account of the settlement. Other interesting accounts of the Red River Colony are contained in Bishop David Anderson's "Notes of the Flood at the Red River" (1852), a new edition of which was published in 1873; the Parliamentary Blue Book of 1853; and in Alexander Ross's "Red River Settlement: its Rise, Progress, and Present State," published in 1856. This records the hardship and privations undergone by the early settlers when the Red River presented a picture to the imagination of civilized man as gloomy and forbidding as the Ultima Thule of the ancients, and affording almost as little promise of reward. The most valuable historical accounts of the settlement naturally come from the pen of Dr. George Bryce, and are entitled "The Romantic Settlement of Lord Selkirk's Colonists," published at Toronto in 1909, and "Lord Selkirk's Colonists: the Romantic Story of the Pioneers of Manitoba." The latter was issued in 1911 in order to provide a good account of the foundation of the colony for the celebration of its centenary in 1912. Dr. Bryce is largely in favour of Selkirk, and bases his conclusions upon much new matter gleaned from the archives. In 1857 and 1858 two exploring expeditions were sent to the Red River and Assiniboine and Saskatchewan countries with the object of ascertaining the practicability of establishing an emigrant route between Lake Superior and the Selkirk Settlement, and to acquire knowledge of the resources of the vast prairie territory. An account of these expeditions by Henry Youle Hind and others connected with them was published in 1860. In 1859 the *Nor'-Wester*, a newspaper, was commenced, and supplied the settlement with news. This should certainly be consulted by all students of the history of

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Western Canada. The troublous times of 1869 and 1870 are narrated in Colonel Denison's "Reminiscences of the Red River Rebellion," in Captain G. L. Huyshe's "The Red River Expedition" (1871), in Joseph James Hargrave's interesting book entitled "Red River," published at Montreal in 1871, and in Alexander Begg's "The Creation of Manitoba, or a History of the Red River Troubles," published at Toronto in the same year. Further particulars will be found in "Lord Wolseley's Autobiography." These books by no means exhaust the literature relating to the early settlement of Manitoba, but they give some idea of its variety and scope. The literature of Manitoba as a separate province commences with the Hon. Donald Gunn's "History of Manitoba," published at Ottawa, a useful book, but full of grammatical and typographical errors due to the fact that it was published from a hastily written manuscript without adequate revision. In 1879 Alexander Begg, in conjunction with Walter R. Nursey, issued a book entitled "Ten Years in Winnipeg," and published in that city, and in 1880 Mary Fitzgibbon published her interesting and amusing "Trip to Manitoba." Two years later Dr. Bryce issued his "Manitoba: its Infancy, Growth, and Present Condition," a well-written, interesting, and correct account of the province; and in the same year appeared a second edition of John Macoun's massive and portly volume entitled "Manitoba and the Great North-West." The latter is an encyclopædic work, descriptive of the country and its history, and therefore valuable as a reference book. Mr. Macoun accompanied Fleming's expedition across the continent in the capacity of botanist. These books indicate the interest that was then being taken in the Prairie Provinces. Other books on Manitoba are an official publication descriptive of the province issued by the Canadian Government in 1893; John S. Ewart's long and valuable account of the "Manitoba School Question" (1894), written from the Roman Catholic point of view; Alfred O. Legge's "Sunny Manitoba" (1893); Robert B. Hill's "Manitoba," an historical and descriptive account published at Toronto in 1890; and the Rev. George Young's "Manitoba Memories, 1868-1884." The last was published at Toronto in 1897, and contains an account of the foundation of the Methodist Mission in the Red River Settlement. The

Earl of Southesk's "Saskatchewan and the Rocky Mountains," published in 1875, describes his journey in 1859 and 1860, and is an excellent description of the North-Western country as it then was. His route was from Fort Garry via the Assiniboine Valley to Fort Ellis and Qu'Appelle, thence to Edmonton and on to the Rocky Mountains. Another book descriptive of Saskatchewan at a somewhat later period is the Rev. William Newton's "Twenty Years on the Saskatchewan" (1897). It gives a very good idea of the work of an Anglican missionary near Edmonton. Mr. Newton's journey from Muskoka, Ontario, to his destination occupied five weary months—a veritable plunge into the Ultima Thule. John McDougall's "Saddle, Sled, and Snowshoes," published at Toronto in 1896, also describes pioneering on the Saskatchewan in the sixties. His "In the Days of the Red River Rebellion," published at Toronto in 1903, gives an account of the life of a pioneer missionary in the Edmonton district. In 1911 Mr. McDougall published his "On Western Trails in the Early Seventies," which contains an interesting account of this portion of Canada. These few books practically exhaust the literature dealing specifically with the Saskatchewan and Alberta Provinces. A good book on Alberta by Leo Thwaite was published in 1912 under the title of "Alberta: An Account of its Wealth and Progress," but this shows the modern developments of the province, and is not descriptive of the early pioneering life.

Of recent books dealing with Western Canada there is a large number, and it will only be possible briefly to indicate a few of the more important. In 1900 E. B. Osborn, who went to Western Canada in 1895 and has made a special study of Canadian history, literature, and development, published his "Greater Canada," a book that was widely read on both sides of the Atlantic. Another writer, James Lumsden, who in 1903 accompanied a party of British journalists through the Dominion, wrote a clever account of the country in his "Through Canada in Harvest Time," and in 1904 Aylmer Maude directed attention to certain Russian settlers who were making a home in the Prairie Provinces, in his book entitled "A Peculiar People: the Doukhobors." In the same year was published at Toronto a useful text-book by Alexander McIntyre,

entitled "The Canadian West: a Geography of Manitoba and the North-West Territories." Among other recent works are John Foster Fraser's "Canada as it Is," a vivacious, clear, and concise account of recent progress in Canada, sane and dispassionate in its treatment. This was published in 1905, and a new edition has recently been issued. Howard Angus Kennedy's "New Canada and the New Canadian" (1907) is a clever study of immigration into the Western prairies and of some of the races that are taking part in the development of the country. Mr. Kennedy was special correspondent of *The Times*, and he ably contrasts the West with what it was when he first visited it as war correspondent of the *Montreal Daily Witness*, during the rebellion of Louis Riel in 1885. In 1910 the Hon. Charles McGrath, an Albertan legislator, wrote a notable study of the immigration problem under the title of "Canada's Growth and Some Problems affecting It." Miss Binnie-Clark's "A Summer on the Canadian Prairie" (1910) is written with spirit and skill, and is a good study of the opportunities offered in the West; Mrs. George Cran's "A Woman in Canada" (1910) gives a clever description of the country with special reference to the openings for women; whilst Agnes Deans Cameron's "The New North" (1910) describes a woman's journey from Edmonton to the mouth of the Mackenzie. It is a fresh and readable narrative, and gives a good idea of the possibilities of this portion of Canada. Frank Carrel's "Canada's West and Farther West" (1911) gives the impressions of a Quebec journalist; Arthur E. Copping's "The Golden Land" is an indiscriminating account of farming in Western Canada; and F. A. Talbot's "The Making of a Great Canadian Railway" (1912) is a fascinating story of the building of the Grand Trunk Pacific, the difficulties that have attended its construction, and the nature of the country that is traversed.

Of historical works dealing with Western Canada there are several important books that require more than a bare mention. The *Transactions* of the Historical and Scientific Society of Manitoba, which commenced in 1879, contain a vast amount of important historical and descriptive information, and the *Transactions* of the Royal Society of Canada also afford many glimpses of the history of the West. The

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relations with the Indian tribes are clearly shown in Alexander Morris's "The Treaties of Canada with the Indians of Manitoba and the North-West Territories," published at Toronto in 1880. Mr. Morris was for some years Lieutenant-Governor of Manitoba. M. Dugas's "Légendes du Nord-Ouest," published at Montreal in 1883, relates to the history of Fort Garry and the Indian tribes. The author was a Catholic priest. Another book in French, "Les Bourgeois de la Compagnie du Nord-Ouest," by L. R. Masson, was published in two volumes in 1889-90. Amongst its contents are accounts of David Thompson, of the operations of the North-West Company, and of the Selkirk Settlement. Several important documents are printed under Mr. Masson's editorship, including the "Autobiographical Notes of John McDonald, 1791-1816," and an account of the Saulteux Indians written by Peter Grant in the year 1804. In 1885 G. Mercer Adam, who was editor of the *Canadian Monthly*, published at Toronto an historical work of some value, entitled "The Canadian North West: its History and its Troubles," and this was followed by Major Charles A. Boulton's "Reminiscences of the North-West Rebellions" (1886), which contains an account of the raising of the famous 100th Regiment and a military history of the North-West Rebellions. But the standard history of Western Canada was not issued until 1894, when Alexander Begg published at Toronto his comprehensive "History of the North West," in three volumes. The author must not be confounded with another Alexander Begg who wrote a history of British Columbia. The historian of the North-West was born in Quebec, and resided for many years in Manitoba, where he acquired an intimate knowledge of the country and its past. His history is valuable, and though it lacks the style of a Macaulay or a Gibbon, it omits few of the small details that, properly fitted together, make up the mosaic of Western history. In 1896 there was issued at Montreal a valuable history of the early days of Western Canada, with special reference to ecclesiastical matters. This was the Abbé G. Dugas's "L'Ouest Canadien: sa découverte; son exploration; à l'année 1822." It was continued until 1869 in a second volume published at Montreal in 1906, and an English translation of the first volume was published at Montreal in the previous year. In 1897 the Rev. R. G. MacBeth,

whose father had been one of the original pioneers, published at Toronto his "Selkirk Settlers in Real Life," an interesting personal narrative of the every-day details of life in the settlement, most useful to the historian in search of authentic information of the early days. The success of this unpretentious little volume enabled Mr. MacBeth to issue another historical work, entitled "The Making of the Canadian West," published at Toronto in 1898. The close connection between North-West Canada and the north-western portions of the United States is clearly shown in Charles Moore's "The North-West under Three Flags, 1635-1796," published at New York in 1900. This book mainly describes the territory between the Ohio, Mississippi, and Great Lakes. It is an interesting contribution to American history. One of two books descriptive of early exploration in the West is Agnes C. Laut's "The Pathfinders of the West," published in 1904. Miss Laut terms her book "The Thrilling Story of the Adventures of the Men who discovered the Great North West: Radisson, La Vérendrye, Lewis and Clark." The authoress has her full share of the historic imagination, but her methods are aggressive. The second of these fascinating books is Laurence J. Burpee's "The Search for the Western Sea," published at Toronto in 1908. Mr. Burpee made considerable use of the archives at Ottawa, with the result that his book is a careful and scholarly piece of work. Of other historical books John H. O'Donnell's "Manitoba as I saw It," published at Winnipeg in 1909, is a discursive account of prominent Western men. It also contains an account of the Riel Rebellions. A. L. Haydon's "The Riders of the Plains: a Record of the Royal North-West Mounted Police of Canada" (Toronto, 1910) is an historical account of their general services, and those connected with the rebellions and the building of the Canadian Pacific Railway. It serves to remind us that the Mounted Police have been one of the most important factors in the building of the West. In 1909 a "History of the Red River Valley," a book in two volumes, was published at Grand Forks. This almost entirely relates to American territory, but the beginnings of the Selkirk Settlement are sketched. "The Acquisition of Oregon and the long-suppressed Evidence about Marcus Whitman" is a most important book upon the long boundary dispute with the United

States, and serves to explode some time-honoured fallacies connected with Dr. Whitman's celebrated ride to Washington. The author, William I. Marshall, displays his evidence in two portly volumes published at Seattle in 1911. A good account of Western Canada, suitable for the young, is E. L. Marsh's "Where the Buffalo Roamed," published at Toronto in 1908. A few important books of biography should be mentioned. In 1911 Dr. George Bryce related the exploits of Scotsmen in Western Canada in the second volume of "The Scotsman in Canada." This contains, among other biographies, lives of Selkirk, Douglas, Mackenzie, Strathcona, and Archbishop Machray. A life of the last, by R. Machray, was published in 1909. The life of another great Churchman who was long a leading and commanding figure in the West, Archbishop Taché, has been told by Dom Benoit in two volumes published at Montreal in 1904 entitled "Vie de Mgr. Taché, Archevêque de St. Boniface," and the fascinating and moving history of Father Lacombe has been related in a book by Miss Katherine Hughes, published at Toronto in 1911.

The literature relating to the Indians of Western Canada is extensive. In addition to the accounts of Indian tribes left by early travellers who have already been mentioned, the interesting "Journal of Larocque, from the Assiniboine to the Yellowstone, 1805," published in the Canadian Archives, No. 3, 1910, and edited by L. J. Burpee, contains the first detailed account of the Crow Indians. Many such narratives might be mentioned, but the first writer to deal adequately with the native tribes of North America was George Catlin, the historian of the red races of mankind, whose "Letters and Notes on the Manners, Customs, and Condition of the North American Indians" was published in two volumes, illustrated from his own sketches, in 1841. This is a unique book of extraordinary interest and value, but does not specially relate to the Indians of Western Canada. But in 1859 Paul Kane issued his interesting and spirited "Wanderings of an Artist among the Indians of North America, from Canada to Vancouver's Island." Kane, who was born at York (Toronto), visited many of the tribes, and being an artist he brought back with him several hundred valuable sketches of the people he had seen. By a vote of the Legislature he was authorized

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to execute the series of Indian pictures which are now hung in the Parliamentary Library, Ottawa. A French edition of Kane's valuable work was published in 1861 under the title of "Les Indiens de la Baie d'Hudson, par Edouard Delessert." Two popular accounts of the Red Man are John McLean's "The Indians of Canada" and his "Canadian Savage Folk," published in 1892 and 1896 respectively; and Emile Petetot's "Traditions Indiennes du Canada Nord-Ouest," published in Paris in 1886, is valuable for the tales and folk-lore it contains.

The literature descriptive of the fauna of Western Canada and relating to sport generally is extensive, but only a few of the more important books need be mentioned. One of the most charming of these "nature" books is Paul Fountain's "The Great North West and the Great Lake Region of North America," published in 1904, but descriptive of travels and adventures forty years earlier. Fountain had a genuine appreciation of wild life, and his book appeals to all lovers of nature. Another distinguished naturalist whose books have acquired a world-wide celebrity is Ernest Thompson Seton, who read a number of papers before the Manitoban Historical and Scientific Society, and commenced his series of nature-studies with a monograph on the "Birds of Manitoba," issued under the auspices of the Smithsonian Institution of Washington in 1891. Since that date many important and charming books have been written by Mr. Seton. The best is his "Life Histories of Northern Animals," two sumptuous volumes published in 1910 and profusely illustrated by the author. This book is one of the best popular works about animals that has ever been written. Other books by Mr. Seton are "Wild Animals I have Known" (1898), "The Biography of a Grizzly" (1900), "Lives of the Hunted" (1901), "Monarch, the Big Bear of Tallac" (1904), and "Biography of a Silver Fox" (1909). All are marked by a deep sympathy with and understanding of animal life, and appeal to readers of all ages, for Mr. Seton in his own sphere of work is unequalled amongst Canadian or American writers. A classic of sport is Warburton Pike's "The Barren Grounds of Northern Canada" (1892). The author, starting from Calgary in June, 1889, visited the country

to the north of Lakes Degras and Aylmer—the country of the musk ox and caribou—and graphically describes the northern haunts of these animals. In 1910 Mr. Thompson Seton visited the same regions, which he describes in his fascinating book "The Arctic Prairies" (1911).

Charles Mair's "Through the Mackenzie Basin" (1908), describing the journey of the Athabasca and Peace Rivers Treaty Expedition of 1899, under the leadership of the Hon. David Laird, contains a valuable series of notes on the mammals and birds of Northern Canada, contributed by Roderick Macfarlane; and Miss Agnes C. Laut has written a popular account of the trapping fraternity in her "Story of the Trapper," published at New York in 1902.

The literature relating to travel and exploration in the northern regions of Canada and in the Yukon territory is too extensive to be dealt with in this article. Although the rearrangement of the boundaries of the Prairie Provinces has brought much of the territory described well within the scope of the literature of Western Canada, space will not permit of even a passing mention of some of the more important books. But two classics of the North-West and a few other works must be mentioned. Sir William Butler's "Great Lone Land" (1872) and his "Wild North Land" (1873) contain the record of his adventures in the northern country most wittily and racily told, and are probably far better known than many much more important books. Charles R. Tuttle's "Our North Land," published at Toronto in 1885, is a large volume containing amongst other interesting matter an account of the Hudson's Bay Expedition of 1884 and the Klotz Overland Expedition. It naturally largely deals with Labrador, but there is much information about the capabilities of the North-West Territories. At the present date the book is of importance because it discusses the best route for a railway to Hudson's Bay, a project that was enthusiastically supported by the author. J. W. Tyrrell published at Toronto in 1897 a book entitled "Across the Sub-Arctics of Canada," descriptive of the barren grounds and containing a useful list of northern plants; and David T. Hanbury's "Sport and Travel in the Northland of Canada" (1904), describing the same regions, is a most valuable account of the natural features,

ethnology, and zoology of this immense territory. The most important recent account of Northern Canada is an official publication entitled "Canada's Fertile Northland," issued at Ottawa in 1908. This gives a valuable account of the resources of this country.

Nothing has yet been said about the imaginative literature of Western Canada. In the realm of poetry few writers of eminence have yet appeared. The strenuous life of the prairies has not yet been adequately sung in verse. A poet of considerable power has, however, appeared in Robert W. Service, but his poems chiefly deal with the Far North. His "Songs of a Sourdough" and "Ballads of a Cheechako" have earned him the title of the Kipling of the Yukon. Robert T. Anderson, an Edmonton resident, has written some Western verse which is likely to attract attention. His "The Old Timer" was published at Edmonton in 1910.

Robert Stead, in his "Songs of the Prairie" (1912) and "Prairie Born" (1911), breathes the freedom of Western Canada, whilst the late Isabella Valancy Crawford wrote good verses, some of which may be claimed as "Western" in spirit.

Margaret A. Cawthorpe may also be reckoned amongst Western poets. Her "Lyrics from the Westland" were published at Toronto in 1912.

Of novelists there are many who have written stirring stories of life on the plains or in the northern wilds. It is only necessary to mention the Rev. Charles W. Gordon, better known as Ralph Connor, whose "Sky Pilot" and "Man from Glen-garry" have attracted such favourable notice, and Emily Ferguson, whose "Janey Canuck in the West" (1910) is a clever piece of writing; the Rev. H. A. Cody, author of a good tale entitled "The Frontiersman" (1910), largely founded upon personal experience in Northern Canada; Roger Pocock, author of an entertaining book, "A Frontiersman" (1903), full of local colour and purporting to be an autobiography; John Mackie, whose first novel, "The Devil's Playground," has been followed by many other tales of adventure in the North-West; and Robert Service, whose "Trail of '98" is one of the strongest stories of the rush to the Klondyke; to show that the field of imaginative literature in Western Canada is by no means restricted.



THE PRESS



THE Press of Western Canada has been from time to time both severely criticized and greatly lauded. It may legitimately be doubted however, if the hostile critics have fully taken into account either the conditions which these journals are called upon to meet or the vast amount of good which their enterprise has accomplished. Judged from an English standpoint, even the most conservative newspapers to be found in Western Canada exhibit in political and civic criticism a curious lack of restraint. That fierce light which in England is said to beat upon the throne, shines in Canada upon the politically and commercially great; but its glare is one hundred-fold intensified. Purely personal matters which the editor of a responsible British journal will decently ignore are exhibited with every trapping of the showman's art, and the resources of the English language are at times wellnigh exhausted in a heated attempt to embarrass a political opponent. It would be the height of injustice, however, to abandon criticism at this point. Whilst the enterprise and efficiency of Canadian institutions is probably overestimated in England, it is none the less a fact that the battle of life, both in a political and commercial sense, is fought in a more openly active fashion in Western Canada than at home.

To some considerable extent, therefore, the failing at which we have hinted is one for which the Western Press cannot be held altogether responsible.

Attention has already been called in more than one quarter to the somewhat careless use of words prevalent throughout the West. It may reasonably be doubted, however, if the efforts of the Press, so far from mitigating the evil, do not tend to increase it. The following sentence contains no term the use of which in similar form may not be found in some Western journals on any day of the week. "Jones who recently located in the city suicided this morning at eight because Robinson stole the money he had gotten from the sale of his land." Again, the so-called "fine writing," intended to bring tears to the eyes, is better calculated in many instances to produce a smile. The following extract, which is in no way exceptional, is taken verbatim from the columns of a leading journal. "Who contemplated the placid features of the sleeping woman as she lay with her hands beside her face as though in prayer? Who was cold-hearted enough to send a bullet crashing into the beautiful forehead, to abruptly end a young and happy life? . . . What could have been their motive? The prospects of ever having these questions answered look very slim at present."

These failings, however, attach but to some of the many journals which now

besprinkle the West, whilst there is scarcely a paper that cannot claim credit for an enterprise far in excess of what might reasonably be expected in so thinly populated a country. Foreign intelligence, though curtailed in form, is usually given; and the leading journals do not consider questions of expense when called upon to chronicle events of outstanding importance.

The circulation of these papers must appear limited to the English visitor familiar with journals having a daily issue of anything from 500,000 to 1,000,000 copies. It may seriously be contended, however, that the influence and business-producing powers of Canadian journals are greater in proportion to the circulation than those of their British contemporaries, a fact that may possibly be accounted for by the greater spending propensities of their readers. The papers themselves are bulky to a degree, it being no uncommon event for the Saturday issues of certain of the more prominent journals to exceed 50 pages. In form they offer a mean between the small and ill-proportioned productions to be met with beyond the International frontier and the more severe and cautious sheets familiar to European readers.

Yet, while it can scarcely be held to rank with the highest within the Empire, the Press of Western Canada may still be regarded with legitimate pride by those who support it. It typifies the spirit of the country that it serves. If it is sometimes

THE PRESS

biased and irresponsible it is always enterprising; if it is occasionally hasty and personal it can on occasion be curiously warm-hearted and enthusiastic. From the purely journalistic standpoint it deserves the greatest credit, inasmuch as it has

never been known to produce a dull issue.

In reading the following particulars of some of the more important journals published within the Prairie Provinces, too

much attention should not be devoted to the figures indicating the approximate circulation. The rapid increase occurring in the populations of Western towns and villages necessarily affects the accuracy of such figures.

MANITOBA

BRANDON.—*The Times* was established in 1886 as a weekly paper, the popular Saturday edition being produced at a later date. In 1903 the important step of publishing the paper as a daily was undertaken. At the present time a large increase is being made to the printing plant. Published by the Brandon Times Publishing Company, Ltd. Circulation about 1,500.

The News. Published by the News Publishing Company, Ltd. An evening daily paper. Established 1912. Size about 10 pages.

The Sun. Published by the Sun Publishing Company, Ltd. An evening daily paper. Established 1893. Conservative in politics. Size from 8 to 12 pages. Circulation about 3,500.

DAUPHIN.—*The Press*. A weekly publication. Established in 1899. Published by A. L. Dickinson. Liberal in politics. Size 12 to 14 pages. Circulation about 1,200.

The Herald. This paper was started in 1898, and to-day enjoys a large circulation in Northern Manitoba. It is Conservative in politics, though at times quite capable of adopting an independent attitude. Its contents are strictly local. A new and commodious office has been erected by this paper in the heart of the town. William D. King is the editor and manager.

DELORAINÉ.—*The Times*. A weekly publication. Established in 1887. Liberal in politics. Size about eight pages. Circulation about 1,000.

EMERSON.—*Journal*. A weekly publication. Established in 1895. Independent. Size about eight pages. Circulation about 500.

GLADSTONE.—*The Age*. A weekly periodical. Issued in Gladstone for the past 29 years. In 1906, upon P. G. Minaker taking over the business, the new building was purchased and more up-to-date machinery installed. On Mr. Minaker's death in December, 1911, his wife retained the ownership of the plant, and employed as

editor R. C. Fahrni, who still occupies this position. The present circulation of the journal is about 1,100. The size of the paper runs from 10 to 12 pages.

MINNEDOSA.—*The Tribune*. A weekly publication. Established in 1883. Conservative in politics. Size about four pages. Circulation about 1,100.

MORDEN.—*The Times*. One of the first newspapers launched in Manitoba was the *Manitoba Mountaineer*, issued in Old Nelson in 1882. This paper was succeeded by the *Manitoba News*, the *Morden Monitor*, the *Morden Herald*, and the *Morden Chronicle*. In 1897 the *Empire* was launched by the Conservative party in opposition to the *Chronicle*, which was issued in the Liberal interest. In 1911, however, these papers were amalgamated under the title of the *Morden Times*, which is now the only paper existing in Morden. The *Morden Times* is edited and published by W. H. Glendinning.

PORTAGE LA PRAIRIE.—*The Daily Graphic*. Established in 1891. Independent Liberal in politics. Size from six to eight pages. Circulation about 1,000. Editor and proprietor, C. D. McPherson.

Manitoba Liberal. A weekly publication. Established in 1882. Independent Liberal in politics. Size about 10 pages. Circulation about 1,500.

Review. A weekly publication. Published by the Review Printing and Publishing Company. Established in 1879. Conservative in politics. Size from 8 to 12 pages. Circulation about 2,000.

RAPID CITY.—*Reporter*. A weekly publication. Established in 1884. Liberal in politics. Size about eight pages. Circulation about 750.

RESTON.—*Recorder*. A weekly publication. Published by Manning Brothers. Established in 1905. Independent in politics. Size about eight pages. Circulation about 750.

ST. BONIFACE.—*La Manitoba* (French). A

weekly publication. Established in 1871. Conservative in politics. Size about four pages. Circulation about 4,000.

WINNIPEG.—*The Manitoba Daily Free Press*. Established in 1874, this publication was preceded by the *Weekly Free Press*, established in 1872, so that the *Free Press* of to-day has been in continuous existence for more than 40 years. Originally printed in a one-story frame building, it now occupies one of the largest all-newspaper buildings on the continent, and one that is replete with the latest improvements in printing machinery. Whilst in 1879 the paper was printed from an old-fashioned Wharfedale press, brought in by Red River carts from New York, it now takes the combined capacity of three of the latest Hoe presses to print its various editions. In the year 1874 all the news printed by the *Free Press* was contained in 932 pages, while for 1912 the *Free Press* numbered 69,468 pages, each one of which is nearly double the size of that of the first edition. The new home of the *Free Press* in Carlton Street contains the most modern machinery. In the press room, two Hoe sextuple presses and one Hoe octuple press, with a combined capacity of 132,000 16-page papers an hour, are used in getting out the daily and weekly editions. The paper ranges from 24 pages to 48 pages in size, and in this respect also is one of the largest of the Dominion. The new building, which is occupied solely by the *Free Press* Company, is constructed of reinforced concrete and is entirely fire-proof; it embodies also the most recent architectural plans for convenience and utility. The average daily circulation of the *Free Press* during 1912 amounted to 61,591. This paper is published by the Manitoba Free Press Company, Ltd., of which E. H. Macklin is the president and general manager.

The Telegram. Founded in 1894. Morning and evening editions are published, also a



1. OFFICES OF "MANITOBA FREE PRESS," WINNIPEG.
3. OFFICES OF "YORKTON ENTERPRISE," YORKTON.

2. OFFICES OF "TELEGRAM," WINNIPEG.
4. OFFICES OF "MORNING NEWS," LETHBRIDGE.

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weekly edition (*The Farmer's Weekly Telegram*) which circulates in the rural districts. The type measure of the pages in both daily and weekly editions is 20 in. to the column, and seven columns to the page. The columns are 2 in. in width. The *Telegram* is the chief Conservative newspaper in Western Canada, and the only Conservative daily in Winnipeg. The number of pages runs from 16 to 20 for an ordinary issue, and from 35 to 40 and over on Saturdays. All editions contain announcements of the leading advertisers, including a considerable sprinkling of English firms. Average daily circulation, January 1 to June 30, 1913, 50,257. The officers of the company are C. A. Abraham, president and business manager; W. L. Roblin, secretary-treasurer.

Tribune. An evening daily newspaper established in succession to the *Winnipeg Daily Sun* by R. L. Richardson, formerly associated with that paper. Independent in politics. The property of a company of which Mr. Richardson owns the greater part of the stock. Size about eight pages.

The Nor'-West Farmer is the "pioneer farm journal of Western Canada." It was founded in 1882, and is devoted entirely to the agriculture of Manitoba, Saskatchewan,

and Alberta. For many years it was a monthly journal, but since the year 1899 the *Nor'-West Farmer* has been issued twice a month. The dates of publication are the 5th and 20th of each month. The pages are 10½ by 14 in., four columns wide, and during the year 1912 the actual average size of each issue was 70 pages. Liberal use is made of illustrations. Regular departments are devoted to editorial comment, field crops and cultivation, live stock, dairying, poultry, garden and forestry, legal matters, pure-bred live stock movements, farmers' letters, markets, review of agricultural books, reports of current events, household affairs, and boys' and girls' reading. The subscription rate is \$1 per year. Publishers, the *Nor'-West Farmer, Ltd.*; managing director, C. D. Stovel; editor, George Batho.

The Farmer's Advocate was first issued in 1890. In those early days the periodical started a small office in Winnipeg, though it was actually issued once a month at London, Ontario, by the *Farmer's Advocate and Home Magazine*. In January, 1893, the issue became semi-monthly, and an increased staff at Winnipeg demanded larger offices. In 1904 the increase in circulation

warranted a weekly issue, and in 1906 the paper was printed in Winnipeg in a well-equipped four-story building of its own. The printing plant was, however, increased in 1908, two storeys being added to the building. Even now, however, the premises did not suffice for the needs of the paper, and a new site was purchased upon which a six-story building, with 40 ft. frontage on Notre Dame, 176 ft. on McMicken, and 35 ft. on Langside, was occupied in November, 1912. This journal is devoted to farming methods, stock rearing, home gardening, and kindred topics. In September, 1912, the circulation reached 25,547 copies, of which total about 24,000 copies were sold within the Prairie Provinces.

The Grain Grower's Guide is published once weekly, and possesses a circulation of over 20,000 copies per issue. This paper was established in June, 1908, as the organ of the organized farmers of Manitoba, Saskatchewan, and Alberta. It is the only journal in Canada owned by farmers, of whom there are 13,000 financially interested in the *Grain Grower's Guide*. The policy of the journal is the policy of the organized farmers as laid down by them at their annual convention.

SASKATCHEWAN

ESTEVAN.—*The Mercury*. A weekly publication. Established in 1903. Independent in politics. Size about eight pages. Circulation about 1,000.

The Progress. This paper, which was started in October, 1909, is owned by the Estevan Printing and Publishing Company. It is Liberal in politics. Issued weekly, the *Progress* boasts a circulation of about 1,200. There is some probability, however, that this journal will be issued in the near future as a semi-weekly.

INDIAN HEAD.—*Prairie Witness*. A semi-weekly publication. Established in 1895. Liberal in politics. About eight pages in size. Circulation about 1,000.

LLOYDMINSTER.—*The Times*. A weekly publication. Established in 1905. Independent in politics. Size about eight pages. Circulation about 1,100.

MELVILLE.—*The Canadian*. First produced on October 15, 1908, by J. W. Reid, the present owner and publisher. The size of the paper has increased

from 8 to 12 pages. About 4,000 copies are printed of the special Christmas number.

MOOSE JAW.—*The Morning News*. Issued daily. Published by the News Publishing Company, Ltd. Established in 1907. Independent. Conservative in politics. Size from 8 to 32 pages. Circulation about 3,000.

The Times. An evening daily paper. Published by the Times Company, Ltd. Established in 1906. Independent in politics. Size about 16 pages. Circulation about 3,000.

REGINA.—*The Daily Province*. Established in 1911. Strongly Conservative in politics. Has a circulation of about 8,000 daily. A weekly edition issued by this paper circulates largely through Saskatchewan. This paper deals fully with local news, and devotes considerable attention to providing accurate descriptions of sporting events. While the *Daily Province* is a Conservative newspaper, it is independent of assistance from party organization. Editor, Ernest F. Boddington.

The Daily Leader. Established in 1905. Issues morning and evening editions. Liberal in politics. Size from 16 to 44 pages. Circulation about 11,000.

The Standard. An evening daily paper. Established in 1904. Independent in politics. Size about eight pages. Circulation about 4,000.

The Saturday Mirror. This illustrated paper was first issued on October 12, 1912. It contains from 12 to 24 pages, and is issued weekly. It adopts an independent attitude in politics, discusses public and Imperial subjects, and advocates strongly the adoption of reciprocity as tending to reduce the high cost of living throughout the West. The sole proprietor and editor is A. M. Nicol, formerly on the staff of the *London Daily Chronicle*.

ROSTHERN.—*The Enterprise*. Founded in March, 1903, by the late A. T. Hinde. After conducting this paper for a year Mr. Hinde sold it to A. B. Mann, who occupied the editorial chair for about one

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and a half years. He in turn disposed of the plant to the present editor and proprietor, S. T. Willoughby, under whose direction the size of the paper has been increased.

SASKATOON.—*The Phoenix*. Issued daily. Established in 1906. Liberal in politics. Size from 10 to 24 pages. Circulation about 8,000.

The Star. An evening daily paper. Successor to the *Capital*. Established in 1906. Conservative in politics. Size from 10 to 32 pages. Circulation about 4,000.

SWIFT CURRENT.—*The Sun*. First published at Maple Creek by W. M. Yates. Later produced in Swift Current as an

Independent organ. Purchased in 1905 by a joint stock company in the Conservative interest. Subsequently reverted to Independent attitude. In 1908 purchased by S. R. Moore, the present editor. Is now Liberal in politics. Issued semi-weekly, on Tuesdays and Fridays. Business manager, J. Stoddart.

NORTH BATTLEFORD.—*The News*. Issued weekly. Established in 1905. Conservative in politics. Size from 8 to 12 pages. Circulation about 1,100.

WEYBURN.—*The Herald*. Issued weekly. Established in 1902. Size from 8 to 16 pages. Circulation about 3,000.

The Review. Issued weekly. Established in 1909. Independent in politics. Size from 12 to 16 pages. Circulation about 1,500.

YORKTON.—*The Enterprise*. Established in 1906. Holds a strong position in Eastern Saskatchewan. It is published in an up-to-date building boasting a most modern equipment, and is the property of a local company. Since 1904 this paper has been managed and edited by S. N. Winn. In politics it is Conservative. *The Enterprise* devotes its attention to the agricultural interests of Saskatchewan and the West.

ALBERTA

CALGARY.—*The Albertan*. Issued daily. Publishers, the Alberta Publishing Company. Established in 1902. Liberal in politics. Size from 8 to 20 pages. Circulation about 10,000.

The Herald. First published in weekly form in 1883. After two years issued as a daily journal. After many changes of management, in 1907 J. J. Young, the then proprietor, was joined by J. H. Woods, of Toronto. In 1908 the *Herald* became the property of the Herald Publishing Company, Ltd., the proprietor of which is William Southam, of Hamilton, Ontario. The managing director and editor of the paper is J. H. Woods. Circulation about 17,500. New and commodious offices now in course of construction will be occupied during the present year.

The News Telegram. An evening daily paper. Published by the News Telegram Publishing Company, Ltd. Established in 1910. Independent in politics. Size from 16 to 24 pages. Circulation about 15,000.

The Farm and Ranch Review. Established in November, 1905, and for four years issued as a monthly agricultural periodical. In November, 1909, it was changed to a semi-monthly, and as such it has since remained. The paper was launched in response to a demand for an agricultural periodical in the further West. It was recognized that Alberta and Western Saskatchewan possessed agricultural problems peculiar to themselves, and it was felt that a paper devoted to the interests of these districts would receive considerable support. These anticipations were realized,

and at the end of 1909 the circulation of this journal was about 8,000, a figure which has since increased to more than 18,000. In addition to serving Alberta and Western Saskatchewan, the *Farm and Ranch Review* also has a circulation of some 3,000 copies in British Columbia. Since 1909 the paper has been under the editorial and business control of F. S. Jacobs.

CAMROSE.—*The Canadian*. Issued weekly. Published by the Camrose Publishing Company. Liberal in politics. Circulation about 2,000.

CARDSTON.—*The Alberta Star*. Issued weekly. Established in 1898. Independent in politics. Size about eight pages. Circulation about 1,000.

COCHRANE.—*Advocate*. Issued weekly. Established in 1909. Independent in politics. Circulation about 500.

EDMONTON.—*The Bulletin*. Established in 1881 as a bi-monthly. Soon produced weekly, and later semi-weekly. To-day both morning and evening editions are issued daily, in addition to the twice-a-week edition. Liberal in politics. Size (semi-weekly) about eight pages; (daily) from 8 to 16 pages. Circulation (semi-weekly) about 5,000; (daily) about 6,000.

The Journal. Issued daily. Published by the Journal Publishing Company, Ltd. Established 1903. Size from 10 to 16 pages. Circulation about 8,000. A weekly edition of the paper has a circulation of over 3,000.

LACOMBE.—*The Western Globe*. Established in 1902. Independent. Liberal in politics. Size from 8 to 12 pages. Circulation about 1,500.

LETHBRIDGE.—*The Morning News*. Issued first in 1885. One of the first newspapers to be published in Western Canada. Controlled at this time by E. T. Saunders and C. E. D. Wood. In 1905, E. Hagell assumed control, continuing the publication as a weekly. The journal was so issued until November, 1910, when it was purchased by the Lethbridge News, Ltd., a syndicate in which J. H. Woods, of the *Calgary Herald*, figured prominently. A daily edition was now produced, in addition to the weekly, and the paper, under the management of L. S. Gowe, made rapid progress. In January, 1912, it again changed hands, being taken over by the Canadian Newspapers, Ltd., and the present title of the paper was adopted. In March, 1912, J. E. Wodell was appointed editor and managing director. Mr. Wodell had previously been associated with the *Hamilton Spectator*. The Canadian Newspapers, Ltd., which is presided over by William Southam, of Hamilton, are also the proprietors of the *Edmonton Journal*.

The Herald was started as a weekly paper by W. A. Buchanan, in December, 1905. A daily edition was started in 1907. The premises occupied by the paper constitute a fine structure in the heart of the city. The circulation of the paper is about 6,000. This circulation, however, is not merely local, since the *Herald* may be found throughout Southern Alberta, and even in British Columbia. The plant includes modern linotype machines and a press with a capacity of 8,000 copies an hour. Mr. Buchanan, the publisher of

THE PRESS

the *Herald*, now represents Lethbridge in the Canadian House of Commons. He was for two years president of the Alberta and Eastern British Columbia Press Association.

MACLEOD. — *The Advertiser*. Issued weekly. Established in 1909. Independent in politics. Circulation about 1,500.

MEDICINE HAT. — *The News*. Established a quarter of a century ago, though it did not become a daily paper until January 1, 1911. The paper is edited and managed by A. J. N. Terrill, who has, during the past 10 years, occupied various positions

upon the staff. It may be interesting to note that the site occupied at present by the *News* building was purchased 12 years ago for \$250 and sold in November, 1912, for \$100,000. Upon the new site which has been purchased for this paper a large modern building is being erected.

Independent. Liberal in politics. Size about eight pages. Circulation about 1,500. A weekly edition of this periodical has a circulation of about 2,000 copies.

The Times. Issued daily. Established 1903. Size from 8 to 12 pages. Circulation about 2,000.

RED DEER. — *The News*. Published by

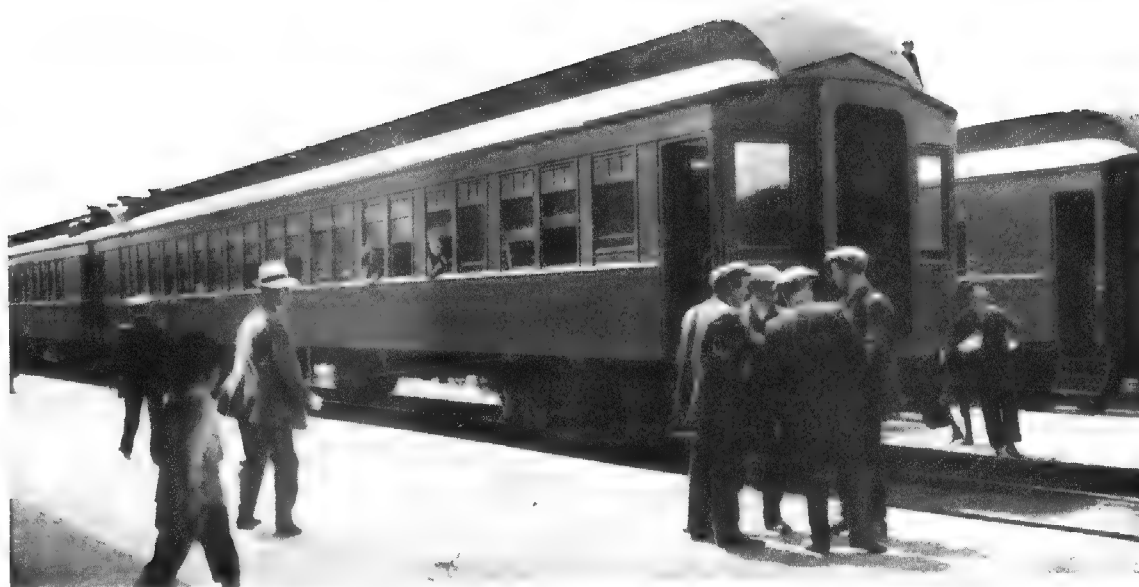
the News Publishing Company. Established 1905. Conservative in politics. Size about eight pages. Circulation about 1,000.

The Advocate. Founded in 1901. Liberal in politics. Takes a strong interest in all matters important to the mixed farming and dairying districts in which it circulates. F. W. Galbraith, the present publisher, was for 23 years with the *Daily Mercury*, Guelph, Ontario, and has been connected with the *Advocate* for six years.

WETASKIWIN. — *The Times*. A weekly publication. Established in 1901. Independent. Liberal in politics. Size about eight pages. Circulation about 2,000.



PORTAGE AVENUE, WINNIPEG.



INFORMATION FOR TOURISTS



VISITORS to the Prairie Provinces should bear in mind that the winter is extremely severe, 40 degrees below zero being far from uncommon, and that living is expensive. As against these unattractive details, however, it should be stated that for the man and woman who are suitably clothed the winter provides many attractions. The climate is dry and exhilarating, and—such is the difference between the Prairie Provinces and Great Britain—the cold, though undoubtedly severe, is but very rarely inconvenient. The intending visitor will, if he is wise, as far as possible make his purchases in England. The Customs duties are somewhat heavy, but duty is not levied on clothes for personal use which have obviously been used. It should also be mentioned in passing that if expenses in the Prairie Provinces are heavy wages are higher than in Great Britain.

The following lines provide a frequent service between British and Canadian ports :

Line.		Summer Port.	Winter Port.
Allan (Liverpool and London)	... ..	Montreal	Halifax, N.S., and St. John, N.B.
C.P.R. (Liverpool)	... ..	Quebec	St. John, N.B.
Cunard (Southampton)	... ..	Montreal	Halifax, N.S., and Portland, Maine.
Donaldson (Glasgow)	... ..	Montreal	St. John, N.B.
Royal Line (Bristol)	... ..	Montreal	Halifax, N.S.
White Star Dominion (Liverpool)	... ..	Montreal	Halifax, N.S., and Portland, Maine.

Fares by these lines vary slightly according to the size of the vessel and the accommodation provided. The following figures, however, will serve to convey some idea of the cost of single tickets: first class, £18 10s.; second class, £10 10s.; third class, £7.

The necessity for a winter port is due to the fact that the ice on the St. Lawrence closes that river to navigation from late in November until early in May. During these months passengers are landed in New Brunswick or Nova Scotia, the journey by rail to Montreal from Halifax occupying about 24½ hours, and from St. John about 16½ hours.

At the present moment undoubtedly the most convenient and direct route from Montreal to Winnipeg is that provided by the Canadian Pacific Railway, whose trains accomplish the journey in 48 hours. An alternative route is provided, however, by its active rival, the Grand Trunk Pacific. There is every probability that early in 1915 a third line, that of the Canadian Northern, will also be in operation. By that date, also, the main line of the Grand

Trunk Pacific should have brought Winnipeg into intimate connection with Quebec. In the meantime, whilst construction on the two new transcontinental railways is proceeding, the route offered by the Grand Trunk Pacific, though exceedingly picturesque, is somewhat lengthy. Travelling by rail to Sarnia, at the southern extremity of Lake Huron, passengers by the Grand Trunk there embark on one of the comfortable vessels operated by the Northern Navigation Company, Ltd., and by this means cross Lakes Superior and Huron to Port Arthur, whence train is taken to Winnipeg. About three and a half days are occupied by the journey, which will scarcely be attempted by the business man to whom time is of importance. From a scenic standpoint, however, the route followed offers numerous advantages, and for this reason it is greatly in favour with tourists anxious to see something of the beauties of the Great Lakes. The journey from Sarnia to Port Arthur, it may be remarked, occupies 39 hours.

Winnipeg has been not inaptly named the "Gateway of the West," for the numerous lines of railway which radiate from this centre supply ample excuse for the designation. The time consumed by a journey from Winnipeg to the principal towns of Alberta, Saskatchewan, and Manitoba is shown in the table on page 431.

The baggage system in force in Canada is infinitely preferable to the haphazard methods for which British railways are undesirably notorious. The visitor travel-

INFORMATION FOR TOURISTS

ling, let us say, from Montreal to Winnipeg will take into the sleeping car with him merely those toilet requisites which can comfortably be stowed away in a conveniently sized "grip." This "grip," it may be remarked, should be of such dimensions as will allow it to slip under the seat of the carriage. The extreme measurements allowed by the railway companies are : length, 30 in. ; width, 17 in. ; height, 9 in. All other baggage will be

Canadian notes and coins is shown below :

	s.	d.
Dollar = 100 cents	= 4	2
$\frac{1}{2}$ Dollar = 50	"	= 2 1
25	"	= 1 0 $\frac{1}{2}$
10	"	= 0 5
5	"	= 0 2 $\frac{1}{2}$

Notes are issued for \$100, \$50, \$20, \$10, \$5, \$4, \$2, \$1. Notes issued in the United States are accepted in Canada.

he spread of knowledge will almost certainly remedy.



ASSINIBOIA HOTEL, MEDICINE HAT

The Assiniboia Hotel at Medicine Hat was opened some 15 years ago by Captain Ross, and is conducted by Mr. W. J. McLean, who took over the premises in 1912.

The building, which is most conveniently situated, contains 63 bedrooms, of which no fewer than 45 have bathrooms *en suite*. The convenience of this practice to the traveller arrived from a long and tiring journey is obvious, and Canadians are not slow to take advantage of it. It frequently happens, in fact, that bedrooms with baths *en suite* are fully occupied, whilst the less expensive rooms, fitted merely with basin and hot and cold running water, are vacant. The dining-room accommodation provides for 60 persons. The drawing-room, the lounge, the writing-room, and the billiard-room are fitted in the most modern style, and a barber's shop may be found upon the premises. Both commercial and tourist classes are catered for, 15 sample-rooms being provided for the use of commercial travellers.

The hotel is conducted upon the European plan, by which meals are paid for as an addition to the charge made for the bedroom. The rates for the latter run from \$1 per diem upwards.

Unlike many hotels in Western Canada, the "Assiniboia" does not find employment in the kitchen for Oriental labour.

Mr. W. J. Conrad, who has managed this hotel since it was taken over by Mr. McLean, was previously office manager at the Alberta Hotel, Calgary.



THE EMPRESS HOTEL, SWIFT CURRENT

The Empress Hotel in Swift Current was originally owned by Mr. William Drever, who opened it in January, 1912. In December of the same year, however, it was taken over by Messrs. Bertin and Webster, by whom it has since been managed.

The building is three stories in height, and covers an area of 100 ft. by 115 ft. Accommodation for guests is provided by 86 bedrooms, of which 16 have bathrooms *en suite*. All bedrooms are fitted with running hot and cold water.

VIA CANADIAN PACIFIC RAILWAY.

Winnipeg to Brandon	132.2 miles	4 hours
" " Regina	356.6 "	10 $\frac{1}{2}$ "
" " Moose Jaw	398.2 "	12 "
" " Medicine Hat	656.4 "	21 $\frac{1}{2}$ "
" " Calgary	836.5 "	28 "
" " Banff	918.4 "	32 "
" " Saskatoon	479.8 "	17 "
" " Edmonton	845.2 "	32 "

VIA GRAND TRUNK PACIFIC RAILWAY.

Winnipeg to Edmonton	792 miles	27 hours
" " Saskatoon	466 "	14 $\frac{1}{2}$ "

VIA CANADIAN NORTHERN RAILWAY.

Winnipeg to Edmonton	826.9 miles	32 hours
" " Saskatoon	507.4 "	19 "
" " Brandon	135.8 "	4 $\frac{1}{2}$ "
" " Regina	357.1 "	12 $\frac{1}{2}$ "

accepted by the railway at Montreal. On arriving at his hotel in Winnipeg the tourist can hand the check received at Montreal in exchange for the baggage to the hotel porter. Later in the day the tourist will find his baggage awaiting him in his bedroom. Railways carry baggage free of cost within the following limits : for an adult, 150 lb. ; for each child under 12 years of age, 75 lb. The railways limit their responsibility for lost baggage to \$100 for that of an adult and \$50 for that of a child. No package weighing more than 250 lb. will be accepted for transportation on a passenger train.

Two types of sleeping car are run on the Canadian Pacific Railway, known respectively as "Standard" and "Tourist." Both are quite comfortable. The Tourist car may be used by the holder of a through second-class ticket on payment of a small additional fee.

Money can be most conveniently carried in the form of a draft on some Canadian Bank. Small sums can be changed at the purser's office on board ship. The English sovereign is accepted as \$4.85. The equivalent in British currency of various

The quarter-dollar silver coin is frequently referred to as "two bits," and the half-dollar as "four bits." The 10 cent piece is known as a "dime," and the 5 cent piece, properly as regards the United States coin and improperly as regards the silver equivalent of Canada, is referred to as a "nickel." These terms are in daily use on the American continent, and are apt to prove confusing to the new-comer.

The majority of the hotels in Canada are conducted on what is known as the "American" plan, by which an inclusive charge is made for room and meals. This rate per diem may be anything from \$2 to \$4, according to the hotel and the town, for some towns are more expensive than others. The largest and most expensive hotels are those owned and conducted by the railway companies who favour the "European" plan, the rate quoted having reference merely to the room and service. It would be absurd to pretend that Canadian hotels, with a few noteworthy exceptions, have as yet reached a European standard. In many growing and important towns the hotel service is still crude in the extreme. This, however, is a defect that time and

THE PRAIRIE PROVINCES OF CANADA

The dining-room accommodation provides for 90 persons, whilst a large lounge, writing-room, and drawing-room add to the comfort of guests stopping in the hotel.

Both tourists and commercial men are catered for, the hotel being conducted on the American plan, by which an inclusive rate is quoted of from \$2.50 to \$3 per day.

Messrs. Bertin and Webster have been associated with Swift Current for a period of seven years.

The manager of the hotel, Mr. F. W. Nicholson, was for 3½ years previous

bedrooms are in addition fitted with private bathrooms. All bedrooms are in telephonic communication with the hotel office. The public rooms include a grill-room, dining-room, and tea-room, accommodating in all about 200 persons. Rooms much used by guests are the large drawing-room, ladies' parlour, and smoking lounge. These rooms are most comfortably fitted, and with the hall possess a seating capacity of 60. A billiard-room containing six tables, a hair-dressing saloon, and tailor's shop are attached to the hotel. Both tourist and

is an Englishman by birth, has succeeded in making the hotel decidedly popular with all classes of visitors.



ROYAL GEORGE HOTEL, EDMONTON

The Royal George Hotel at Edmonton first opened its doors on December 26, 1910, and during the two years of its existence has become very popular with the tourists and commercial men who visit the capital city of Alberta. It is conducted on the American plan at a uniform charge



1. C.P.R. HOTEL "ROYAL ALEXANDRA," WINNIPEG.



2. NEW C.P.R. HOTEL AT CALGARY.

to the opening of the hotel manager of the Union Bank at Swift Current.



KING'S HOTEL, REGINA

The King's Hotel at Regina was opened in 1908 by Mr. J. H. Haslam, who in 1910 leased it to the Saskatchewan Hotel Company, by whom it is still controlled. The building, which was partly rebuilt in 1912 is constructed on modern lines. Accommodation for guests is provided by 150 bedrooms, all of which are fitted with hot and cold running water: about 75

commercial visitors are catered for, special provision in the shape of eight sample rooms having been made for the latter.

The hotel is conducted on temperance lines and on the European plan, by which meals are charged for as additional to the rate quoted for the use of bedroom. Rates vary from \$1.50 to \$5 per diem, according to the nature of the room selected.

Since February, 1912, the establishment has been managed by Mr. E. Fletcher, who assumed this post after 20 years' experience of hotel business in the United States, Canada, and England. Mr. Fletcher, who

of \$3 a day. This system has become very popular in Canada, and has many advantages for the visitor who contemplates a prolonged stay. There are 97 bedrooms, a large artistically decorated dining-room in which 88 people can be comfortably seated, a cosy drawing-room, a billiard-room, spacious rotunda, and a writing-room. The latter is lacking in many Canadian hotels, despite its obvious convenience. As is now the custom with the most up-to-date hotels in Canada, the "Royal George" possesses a comfortable bus, which meets all trains at Edmonton and Strathcona stations.

INFORMATION FOR TOURISTS

The proprietors, Mr. Thomas Malin and Mr. Thomas W. McKernan, have both had lifelong experience in the hotel business. The latter is a native of Strathcona, Alberta, but Mr. Malin hails from Birmingham, England.

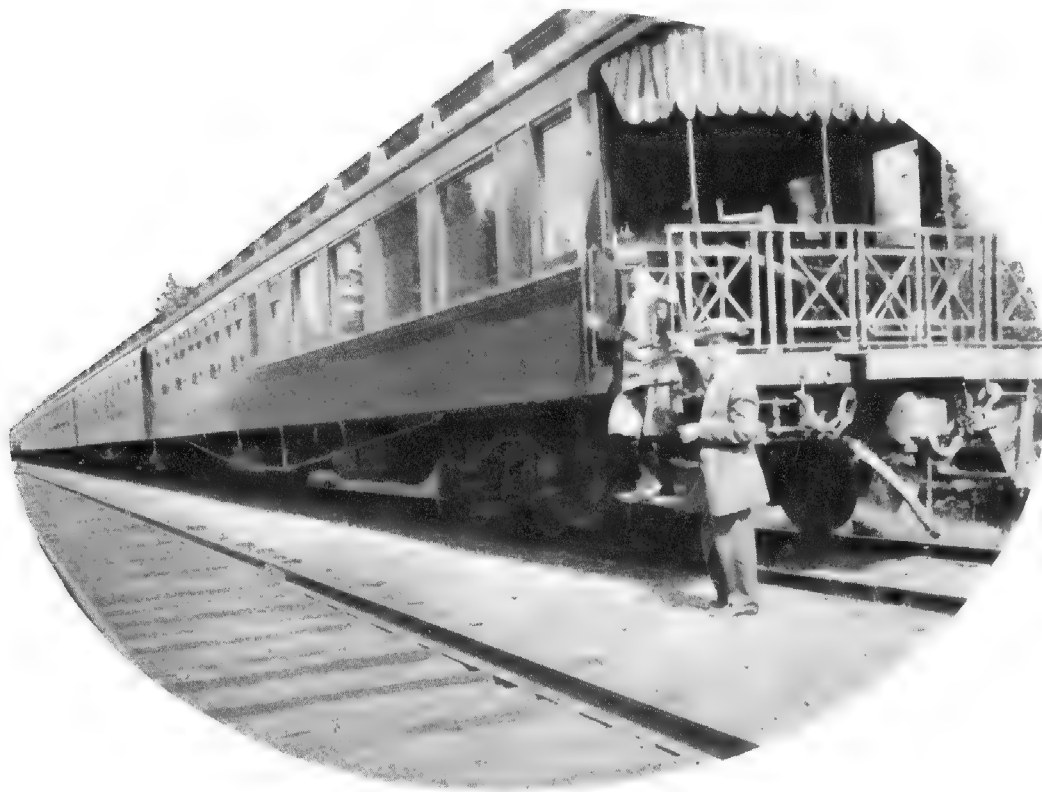


ROYAL GEORGE HOTEL, MOOSE JAW

The Royal George Hotel at Moose Jaw was opened in March, 1912, by Messrs Curry and Liss, and in August of the same year was taken over by Mr. Mead,

the present proprietor. On the transference of the property Mr. Mead initiated a progressive policy by adding to the structure a comfortable grill-room, providing accommodation for 160 guests. The hotel contains 104 bedrooms, the majority of which are fitted with hot and cold running water. Suites consisting of bedroom, sitting-room, and bathroom are held at the disposal of guests, and many bedrooms have private bathrooms attached. The public rooms include a large drawing-room and lounge. The equipment of the

hotel can, in fact, legitimately be termed modern and complete. Both commercial men and tourists are catered for, and the situation of the building, facing as it does the Canadian Pacific Railway station, makes it a most convenient stopping place. The staff employed numbers 65, and no point that can add to the comfort of his guests is neglected by the proprietor. Mr. Mead came to Canada in 1894 from Great Britain, and well understands the requirements of his British visitors.





STATISTICS

Census Returns



THE figures given below are those recorded in the fifth census of Canada, taken in 1911. Whilst figures supplied by town and city officials are apt to be unduly optimistic, there is probably some ground for the suggestion that those supplied by the census authorities in some instances fail to do full justice to the towns to which they refer. However that may be, they constitute an official estimate, and as such are valuable, if only for the purpose of comparison one with another.

POPULATION (BY PROVINCES).

	1911.	1901.	Increase Per Cent.
Manitoba ...	455,614	255,211	78.52
Saskatchewan ...	492,432	91,279	493.48
Alberta...	374,663	73,022	413.08

POPULATION (BY TOWNS).

Manitoba.

Brandon ...	13,839
Rivers ...	950
Souris ...	1,854
Virden ...	1,550
Dauphin ...	2,815
Grand View ...	637
Swan River ...	574
Morden ...	1,130
Gretna ...	519
Manitou ...	639
Carman ...	1,271

St. Laurent ...	581
Minnedosa ...	1,483
Rapid City ...	580
Carberry ...	878
Gladstone ...	782
Neepawa ...	1,864
Portage La Prairie ...	5,892
St. Boniface ...	7,483
Emerson ...	1,013
Morris ...	598
Selkirk ...	2,977
Stonewall ...	1,005
Beausejour ...	847
Gimli ...	496
Boissevain ...	918
Deloraine ...	808
Hartney ...	623
Killarney ...	1,010
Melita ...	690
Winnipeg ...	136,035

Saskatchewan.

Arcola ...	794
Estevan ...	1,981
Oxbow ...	630
Weyburn ...	2,210
Battleford ...	1,335
North Battleford ...	2,105
Wilkie ...	537
Humboldt ...	859
Watrous ...	781
Yorkton ...	2,309
Moose Jaw ...	13,823
Maple Creek ...	936
Swift Current ...	1,852
Gull Lake ...	606
Herbert ...	559

Prince Albert ...	6,254
Melfort ...	599
Big River ...	516
Broadview ...	702
Indian Head ...	1,285
Moosomin ...	1,143
Qu'Appelle...	851
Whitewood ...	961
Grenfel ...	709
Regina ...	30,213
Lumsden ...	695
Rouleau ...	679
Strassburg ...	811
Melville ...	1,816
Saskatoon ...	12,004
Outlook ...	685
Rosthern ...	1,172

Alberta.

Calgary ...	43,704
Edmonton ...	24,900
Macleod ...	1,844
Medicine Hat ...	5,608
Red Deer ...	2,118
Strathcona ...	5,579
Banff ...	937
Bank Head... ..	694
Canmore ...	754
Strathmore... ..	531
St. Albert ...	614
Stoney Plain ...	505
Claresholm ...	809
High River ...	1,182
Nanton ...	571
Okotoks ...	516
Pincher Creek ...	1,027
Blairmore ...	1,137

STATISTICS

Coleman	1,557
Frank	806
Lethbridge... ..	8,050
Cardston	1,207
Magrath	995
Raymond	1,465
Taber	1,400
Bassano	540
Diamond City	510
Gleichen	583
Queenston	666
Stafford	985
Stirling	514
Didsbury	726
Innisfail	602
Lacombe	1,029
Olds	917
Ponoka	642
Stettler	1,444
Castor	1,659
Wetaskiwin	2,411
Camrose	1,586
Leduc	523
Tofield	586
Wainwright	788
Vegreville	1,029
Vermilion	625

POPULATION PER SQUARE MILE.

The following table, which is of interest for the purposes of comparison, gives the population per square mile of the various provinces of the Dominion :

Alberta	1'93
Saskatchewan	1'95
Manitoba	6'18
New Brunswick	12'61
Nova Scotia	22'98
Ontario	9'67
Prince Edward Island	42'91
Quebec	5'69
British Columbia	1'09
Yukon	0'041
North-West Territories	0'009

Elevation above Sea-level (in feet)

Manitoba.

Brandon	1,194
Carberry	1,258
Carmen	872
Cypress River	1,232
Hillview	1,400
Minnedosa	1,699
Treherne	1,212
Virden	1,444
Morden	978
Winnipeg	757
Dauphin	957
Le Pas	1,112
Portage La Prairie... ..	854

Saskatchewan.

Brownhill	1,957
Crescent Lake	1,658
Estevan	1,858
Indian Head	1,924
Moose Jaw	1,767
Moosomin	1,884
Qu'Appelle	2,134
Quill Lake	1,600
Regina	1,885
Swift Current	2,423
Battleford	1,620
Prince Albert	1,432
Rosthern	1,657
Saskatoon	1,571

Alberta.

Edmonton	2,158
Wetaskiwin	2,480
Lacombe	2,783
Calgary	3,428
Gleichen	2,952
High River	3,394
Lethbridge	2,961
Macleod	3,128
Medicine Hat	2,161
Pincher Creek	3,750
Banff	4,521
Blairmore	4,225
Athabasca Landing	1,650
Dunvegan	1,305

Grain Crops

The following tables, showing the area under crop, 1912, and the grain production of the Prairie Provinces in the same year, were supplied by the officials of the Dominion Government :

Area under Crop, 1912.

	Manitoba.	Saskatchewan.	Alberta.	Total.
	Acres.	Acres.	Acres.	Acres.
Area under wheat	2,653,100	4,891,500	1,417,200	8,961,800
„ oats	1,269,000	2,285,600	1,359,300	4,913,900
„ barley	454,600	180,300	174,900	809,800
„ flax	94,000	1,463,000	111,400	1,668,400
„ other products	29,600	35,300	60,000	124,900
Totals	4,500,300	8,855,700	3,122,800	16,478,800

Grain Production in Bushels of the three Prairie Provinces for 1912.

	Wheat.	Oats.	Barley.	Flax.
Manitoba	58,890,000	53,806,000	14,965,000	1,174,000
Saskatchewan	93,849,000	105,115,000	5,926,000	18,931,000
Alberta	30,574,000	62,936,000	5,780,000	1,429,000
Totals	183,312,000	221,857,000	26,671,000	21,534,000

WHEAT PRODUCED AND EXPORTED.

The following table shows the amount of wheat produced in Canada and the amount exported for the years 1901 to 1912. Wheat flour at the rate of $4\frac{1}{2}$ bushels per barrel is included with unmilled wheat :

Year.	Production in Bushels.	Exports in Bushels.
1901	88,593,000	15,332,000
1902	97,031,000	31,550,000
1903	81,730,000	39,424,000
1904	72,238,000	24,717,000
1905	107,566,000	21,307,000
1906	136,257,000	48,059,000
1907	93,104,000	30,940,000
1908	112,434,000	47,567,000
1909	166,744,000	55,981,000
1910	149,990,000	66,554,000
1911	215,918,000	45,802,000 ¹
1912	199,236,000	64,466,000 ¹

¹ This figure does not include exports of flour.

GRAIN STORAGE.

The elevator capacity of Western Canada is being constantly added to, as evidenced by the following table, which includes the elevators at Port Arthur, Fort William, Keewatin, and prairie points ; figures given are for January 1st each year :

Year.	Bushels.
1900	20,908,000
1901	21,000,000
1902	21,298,000
1903	30,356,400
1904	41,186,000
1905	46,640,630
1906	50,453,200

THE PRAIRIE PROVINCES OF CANADA

Year.	Bushels.
1907	55,600,000
1908	60,808,600
1909	63,190,100
1910	77,901,100
1911	84,917,700
1912	89,514,900
1913 (estimated) ...	100,000,000

GRAIN INSPECTION AT WINNIPEG (IN CARS).

The figures given in the following table show the number of cars of grain inspected at Winnipeg during the past 13 years. The capacity of grain cars on Canadian railways has risen from 40,000 to 80,000 lb. The earlier type of car only was in service in 1900; to-day, however, cars carrying 60,000 and 80,000 lb. are used in about equal numbers.

	Wheat.	Oats.	Barley.	Flax.	Speltz.	Rye.	Total Cars.
1899-1900	32,725	763	102	73	—	—	33,663
1900-1901	14,886	448	28	43	—	—	15,405
1901-1902	53,708	3,338	308	146	—	—	57,500
1902-1903	51,833	2,036	471	655	10	—	55,005
1903-1904	38,473	1,129	161	536	2	—	40,301
1904-1905	37,892	1,824	390	288	2	—	40,396
1905-1906	61,542	5,768	1,357	503	—	8	69,178
1906-1907	68,353	9,957	2,263	908	1	25	81,507
1907-1908	50,845	9,312	2,192	1,617	—	12	63,978
1908-1909	70,529	12,220	2,983	2,208	—	17	87,957
1909-1910	89,129	18,392	3,886	3,571	—	19	114,997
1910-1911	81,506	13,860	2,129	3,216	—	17	100,737
1911-1912	135,756	27,969	5,251	7,190	—	35	176,201

WHEAT INSPECTED AT WINNIPEG, (IN BUSHEL).S).

The following figures represent the total of bushels of wheat inspected at Winnipeg during the past 12 years :

Year.	Bushels.
1900-1901	12,355,380
1901-1902	45,651,800
1902-1903	51,833,000
1903-1904	40,396,650
1904-1905	39,786,600
1905-1906	64,619,100
1906-1907	73,140,920
1907-1908	53,389,350
1908-1909	75,113,385
1909-1910	94,922,385
1910-1911	87,618,950
1911-1912	145,937,700
1912-1913 (estimated)	143,000,000

Fisheries

The total net revenue derived by the Dominion Government from rents, fines, sales, and licence fees in connection with the fisheries of the Prairie Provinces during the fiscal year ending March 31, 1912, was :

	Amount Collected.	Net Amount.
Manitoba	\$6,344.00	\$6,334.00
Saskatchewan	1,304.75	1,304.75
Alberta	709.10	709.00

Yield and value of the fisheries in the province of Manitoba and district of Keewatin, during the year 1911-12 :

Kind of Fish.	Quantity.	Value.
	Cwts. ¹	\$
Trout	236	1,652
Whitefish	51,844	362,908
Pickereel	54,274	325,644
Pike	32,890	98,670
Perch	630	3,780
Tullibee	7,129	21,387
Mixed Fish ²	99,815	299,445
Total value		1,113,486

Yield and value of fisheries in the province of Alberta during the year 1911-12 :

Kind of Fish.	Quantity.	Value.
	Cwts. ¹	\$
Trout	2,225	23,715
Whitefish	5,560	20,374
Pickereel	193	1,002
Pike	7,176	34,471
Perch	50	300
Maskinonge	5	35
Tullibee	325	916
Mixed Fish ⁴	6,000	21,512
Total value		102,325

Total value of fisheries in the provinces of Manitoba, Saskatchewan, and Alberta during the year 1911-12 :

Manitoba	\$1,113,486
Saskatchewan	139,436
Alberta	102,325
Total	\$1,355,247

Temperature

The following tables, which were compiled for this work by Mr. R. F. Stupart, Director of the Meteorological Service of Canada, show the mean temperature of the three provinces for each month of the years 1907-12. Where figures are prefixed by a minus sign (—) the temperature given indicates degrees below zero. To ascertain in these instances the number of degrees below freezing-point 32 should be added. Thus —12.5 represents 44.5 degrees below freezing-point. Again, 7.8 represents, of course, 24.2 degrees below freezing-point.

¹ Cwt. = 100 lb.

² Includes catfish, greyling, bullheads, goldeyes, and ouananiche.

³ "Mixed Fish" includes catfish, greyling, bullheads, goldeyes, and suckers.

⁴ "Mixed Fish" includes greylings, catfish, bullheads, and goldeyes.

Manitoba (Mean Temperature).

Month.	1907.	1908.	1909.	1910.	1911.	1912.
January	—12.5	7.8	—2.5	5.4	—10.1	—11.5
February	2.3	8.7	0.3	—1.3	6.5	6.5
March	15.5	9.6	17.1	34.1	23.5	15.3
April	27.5	40.1	30.3	42.9	41.4	41.2
May	40.0	52.2	51.8	48.9	55.1	53.5
June	62.2	62.1	63.5	68.4	65.4	64.5
July	67.5	66.9	68.0	68.7	64.2	65.3
August	60.7	62.2	66.9	62.3	63.0	60.3
September	48.4	58.3	58.0	54.3	52.4	53.3
October	37.7	43.3	42.5	46.8	42.9	43.8
November	23.4	27.2	24.8	19.9	17.9	28.8
December	13.1	10.0	2.5	5.9	12.4	12.5

STATISTICS

Saskatchewan (Mean Temperature).

Month.	1907.	1908.	1909.	1910.	1911.	1912.
January ...	14.1	9.7	-7.6	7.0	-14.4	-10.4
February ...	6.7	9.6	-0.2	0.4	2.5	7.2
March ...	14.9	10.5	18.4	34.0	22.4	9.1
April ...	25.4	38.2	25.2	43.1	37.7	39.6
May ...	38.8	52.3	48.0	46.9	49.4	49.8
June ...	58.9	57.4	58.0	60.7	60.9	62.3
July ...	61.8	63.3	64.0	64.1	58.1	59.2
August ...	58.3	57.1	62.3	57.2	57.3	59.5
September ...	47.8	52.7	56.5	49.1	48.5	47.2
October ...	42.3	37.6	38.8	42.1	39.6	40.3
November ...	26.5	25.5	17.2	16.6	12.6	27.9
December ...	13.9	9.0	2.6	8.0	9.2	11.9

Alberta (Mean Temperature).

Month.	1907.	1908.	1909.	1910.	1911.	1912.
January ...	-9.3	21.9	-0.7	17.2	-4.0	9.4
February ...	17.7	20.0	8.9	8.5	13.4	30.1
March ...	20.8	19.6	27.7	38.2	33.6	22.8
April ...	33.7	42.8	31.9	45.6	37.4	42.5
May ...	43.9	52.3	48.5	50.0	49.2	51.9
June ...	56.0	55.4	57.9	57.8	58.5	60.8
July ...	60.5	62.6	61.7	62.1	58.4	57.3
August ...	55.4	58.1	59.1	56.0	55.5	59.2
September ...	49.4	52.4	55.3	50.1	48.8	47.7
October ...	47.7	39.5	40.0	43.5	41.1	40.7
November ...	34.2	31.0	16.6	23.7	19.1	31.3
December ...	21.8	20.0	12.1	19.4	19.2	25.2

Precipitation

The following tables give the total precipitation, rain and snow (10 in. of snow

being calculated as 1 in. of rain) as recorded at various meteorological stations within the three provinces :

Manitoba.

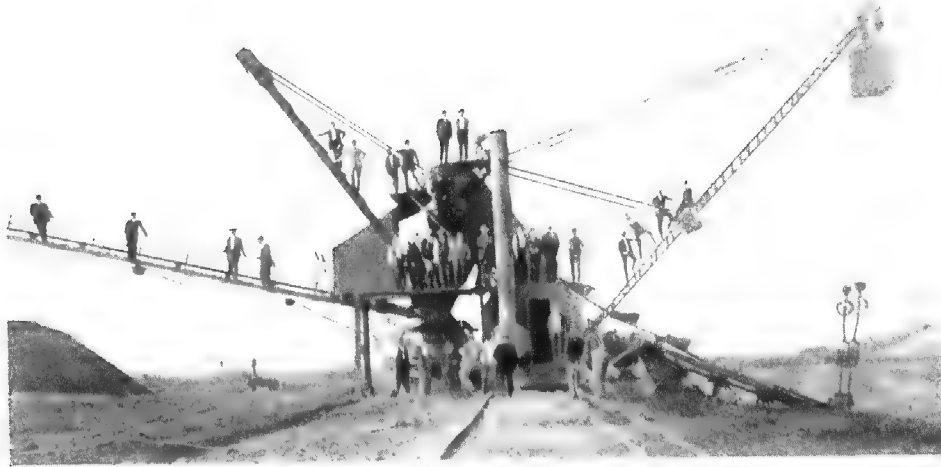
Station.	1907.	1908.	1909.	1910.	1911.	1912.
	In.	In.	In.	In.	In.	In.
Aweme ...	16.28	16.27	17.37	17.44	23.91	19.96
Minnedosa ...	16.41	16.76	15.84	13.58	22.30	17.18
Cartwright ...	18.05	20.75	24.02	15.88	20.27	23.65
Winnipeg ...	16.88	21.44	23.12	18.89	23.38	22.81

Saskatchewan.

Station.	1907.	1908.	1909.	1910.	1911.	1912.
	In.	In.	In.	In.	In.	In.
Battleford ...	10.11	17.51	12.02	8.75	20.47	14.84
Prince Albert ...	16.54	22.15	18.73	7.40	17.94	18.60
Qu'Appelle ...	18.53	18.67	25.75	19.02	20.61	18.06
Swift Current ...	13.17	12.60	19.26	10.13	14.29	14.62

Alberta.

Station.	1907.	1908.	1909.	1910.	1911.	1912.
	In.	In.	In.	In.	In.	In.
Calgary ...	14.96	18.25	13.64	12.03	19.47	21.32
Edmonton ...	16.62	12.50	12.94	14.93	20.67	20.18
Macleod ...	12.36	18.13	14.88	9.82	21.24	12.73
Ranfurly ...	17.14	24.87	17.85	13.86	19.00	17.03



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